UNIVERSITY OF PENNSYLVANIA

A STUDY OF A CLASS IN THE PHILADELPHIA NORMAL SCHOOL

DAVID NEWMARK

A THESIS

IN EDUCATION

PRESENTED TO THE FACULTY OF THE GRADUATE SCHOOL IN
PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR
THE DEGREE OF DOCTOR OF PHILOSOPHY

PHILADELPHIA
1931

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PHILADELPHIA
1931

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To

My Mother

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PART ONE

INTRODUCTION

I

Introduction to the Study

1. *Problem and Purpose of the Study*

The literature in the teacher-training field discloses that a number of attempts have been made to study the characteristics and achievements of students and graduates of normal schools. As early as 1906, Meriam[1] analyzed the achievements of normal school graduates to determine if any relationship existed between scholarship in normal school and efficiency in teaching. Somers[2] made a detailed study and follow-up, published in 1923, of normal school students at the State Normal School for Women, Farmville, Virginia. Whitney,[3] in 1924, measured a number of traits and the relationship between them and final teaching success, of 1156 graduates from two-year college curricula in 12 representative state normal schools.

This investigation resembles the above studies inasmuch as it attempts to study the characteristics and achievements of normal school students. In scope, however, it is narrower than the others since it is limited to a study of the relation between evidences of success in the Philadelphia Normal School and student characteristics. There is no post-normal school follow-up in this investigation and hence no measure of success in teaching —merely success in the normal school. The problem for investigation is to show the relation between evidences of success in the normal school and student characteristics.

Success in the Philadelphia Normal School is measured by the following:

1. Scholarship average in the Philadelphia Normal School
2. Practice teaching mark
3. Graduate or non-graduate[4]

The characteristics of students related for comparison are:

---

[1] Meriam, J. L., *Normal School Education and Efficiency in Teaching.*
[2] Somers, F. L., *Pedagogical Prognosis.*
[3] Whitney, F. L., *The Prediction of Teaching Success.*
[4] In order to graduate a student is required to make a mark of at least 70 in both practice teaching and normal school scholarship.

I. Pre-Normal School Characteristics of Students
   1. English mark in the high school
   2. Mathematics mark in the high school
   3. Scholarship average in the high school
   4. Elementary school subject matter marks given by normal school faculty during the first month of the first semester.
      (1) Arithmetic
      (2) History
      (3) English
      (4) Geography

II. Normal School Characteristics:
   1. Personality rating
   2. Age
   3. Speech
   4. Intelligence
   5. Physical defects

III. Social Background of Students:
   1. Birthplace of father
   2. Birthplace of mother
   3. Birthplace of student
   4. Occupation of father

It is believed that a study of the relation between these evidences of success and these student characteristics should reveal facts which will be of some assistance in the selection of students suitable for admission to the Philadelphia Normal School.

2. *The Limitations of Study and Sources of Data*

The study is limited to an intensive study of a particular group in a city normal school—the class of June, 1927, Philadelphia Normal School. The investigation attempts to make a contribution in the field of teacher training for elementary schools, a contribution peculiar to the guidance problem in the Philadelphia Normal School.

It was the intention of the investigator to carry the study beyond the confines of the Philadelphia Normal School in order to show the relationship between Practice Teaching Mark in the Philadelphia Normal School and Actual Teaching Success in the school system of Philadelphia. However, it was not possible, due to "official objections", to secure post-normal school teaching ratings of graduates of the June, 1927, class. The study was, therefore, restricted to a study of the relation of evidences of success in the Philadelphia Normal School to student characteristics.

The high school marks in English, mathematics, and in addition, the general scholarship averages were secured directly from the official forms forwarded by the high school principals to the Director of the Normal School.

The elementary school subject matter examination data were secured from the Philadelphia Normal School office records. The elementary subject matter tests were given by the normal school faculty during the first month of the first semester. The personality ratings and the information concerning the intelligence, ages of the students, birthplaces of students, fathers and mothers, and the occupations of the fathers were likewise obtained from the office records.

From the office files it was possible to get a list of the fathers' occupations. In a few cases, however, entries on the official blanks were not very clear and it was necessary to check the accuracy of the same by personally consulting some of the students.

From the Director of the Department of Speech Improvement, a complete report of the results of the speech examination of normal school applicants was secured. The results of the speech examination were submitted under the following headings:

1. Pupils who have no speech defects
2. Pupils who should be able to overcome their defects with help in the English class.
3. Pupils who should have help in the clinic.
4. Pupils recommended for exclusion.

The report referred to in the last paragraph contained clear and definite diagnoses of the pupils examined. In the Appendix, page 148, are to be found several diagnoses to illustrate types of cases falling in groups 2, 3, and 4.

Through the cooperation of the school nurse and the medical supervisor, the investigator obtained access to the complete medical reports of the students. The data pertaining to physical defects used in this study were taken by the writer directly from the official record cards.

Data pertaining to the evidences of success—normal school scholarship average, practice teaching mark, and graduation or non-graduation—were secured from the official record card of each student.

Due to numerical limitations it was deemed advisable to refrain from drawing conclusions from some of the tables and charts of relationships appearing in this study. In a few instances conclusions were reached with reservations.

3. *Other Studies in the Field*

The present investigation resembles in a few particulars the study made in 1928 by Shultz[5] at the University of Pennsylvania. Dr. Shultz's investigation was limited to an extensive study of a particular group in a school of education. His was a study in the field of teacher training for secondary schools, a study related to the guidance problem in the School of Education of the University of Pennsylvania. As stated on page 18, the present study, on the other hand, is limited to an intensive study of a class in a city normal school. The study attempts to make a contribution in the field of teacher training for elementary schools, a contribution peculiar to the guidance problem in the Philadelphia Normal School. Shultz's study, moreover, concerned students in a four-year course, the completion of which was characterized by the obtaining of the degree of Bachelor of Science in Education. The present study deals with students in a two-year non-degree course. Wherever Shultz found it

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[5] Shultz, I. T., *A Descriptive and Predictive Study of a Class in a School of Education.*

necessary to show relationships and make predictions, the method, correlations of the order zero, partial and multiple, and the regression equation, were used. On the other hand, in this study simple mathematical and graphical methods of showing relationships were largely used. Occasionally, however, the partial correlation technique was employed to show relationships between some of the evidences of success and characteristics. Shultz, moreover, made a follow-up study of his class. The present investigation does not deal with post-normal school data.

Somers,[6] who made a very detailed study and follow-up of 150 normal school students at the State Normal School for Women, Farmville, Virginia, began his investigation during the school year of 1919–20. He decided at that time to study the possibilities of predicting the achievements of teachers-in-training, on the basis of data available at the beginning of the year or shortly thereafter. The plan was to gather past records, measure present abilities and worth, and follow each individual's performance as a student in school and as a teacher outside the first year. Preparatory-school records and character estimates by former teachers were collected. Measurements of intellectual ability by means of psychological tests and personality estimates by instructors at the end of the first semester were procured; the level of performance in school (in terms of marks) and teaching in training school (in terms of ratings) were recorded as the data accumulated; and at the end of the first year as teachers (May–June, 1922) ratings on success were obtained.

After treating his data statistically, Somers concludes that test scores and personality ratings combined with high school record, when available, might well serve to determine the fitness of candidates for admission to training schools for teachers and that elimination could be practiced safely at the end of the first half year on the basis of intelligence test, personality, and first-semester marks. He shows the correlation between intelligence and teaching success to be .43, while the correlation between personality and teaching success is .61. Somers' method is that

---

[6] Somers, F. L., *Pedagogical Prognosis.*

of partial correlation and the regression equation to predict actual teaching success.

In 1924, or one year after Somers' study was published, Whitney's[7] study appeared. In this dissertation Whitney analyzed the inter-relationships between intelligence scores, academic marks in the state normal schools, marks in professional courses in the state normal school, marks in secondary school subjects, chronological age, physical characteristics, judgments of personality, ratings on student teaching, and ratings on teaching success after graduation; and the relationship between each and all of these items to final teaching success.

In the beginning of his study Whitney states, "The thesis to be defended in this study is that scientific personnel-checking in state normal schools is necessary, possible, and practicable; that it must consider every item of personality and of equipment for which an expression of amount is available; and that it will include an analysis of the ultimate criterion, teaching skill after graduation."

Measurements of the traits of 1156 graduates from two-year college curricula in 12 representative state normal schools (classes of 1920) furnished the data used in Whitney's study. These schools were geographically well-scattered.

Whitney used simple, partial and multiple correlation methods in ascertaining his relationship. He further employed the regression equation to predict teaching success.

In Whitney's report student teaching is ranked first in importance when the various elements are related to the criterion, actual teaching success. Then follow professional marks, academic marks, physique, secondary school record, intelligence. According to Whitney, since measures of intelligence, secondary record and physique can be secured without much trouble when the prospective teachers enroll these three things may be most conveniently employed to predict teaching success.

For the purpose of discovering the sources from which the high school population is drawn and the extent to which secondary education in the United States is still selective in character,

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[7] Whitney, F. L., *The Prediction of Teaching Success.*

Counts[8] made a study of the high school population in four cities. The data for the study were secured by having all students in attendance on a certain day fill out a card on which were questions asking for various educational and sociological information. The occupation of the father of the students received large emphasis in the investigation because Counts felt that "occupation is the central fact in the life of the ordinary person." A number of questions were asked each student concerning the occupation of his father. The first task encountered by Counts as soon as the tabulation of the data commenced was a classification of occupations significant for the purposes of the study. Inasmuch as he could find no existing classification that was satisfactory, he developed, after much experimentation, a new classification of occupations. (See Appendix, page 150, for a copy of Count's Classification.) This classification is used in the present study as a basis for classifying the occupations of the students' fathers.

While no detailed study, similar to the present one, has ever been made of a Philadelphia Normal School class, a study pertaining to birthplaces of students and their parents was made by the writer[9] a few years ago. The results obtained in the present investigation regarding birthplaces were compared with those obtained in the 1925 study.

4. *Reasons for Selecting Class Studied*

In September, 1925, a new two-year curriculum was introduced in the Philadelphia Normal School. This new curriculum placed great stress on modern teaching methods, practice teaching, and professionalized subject matter.

Because of changes in the rules of the Board of Education candidates for admission were required to meet rather definite matriculation requirements.[10] For the first time in the history of the school candidates were subjected, during the first month

---

[8] Counts, G. S., *The Selective Character of American Secondary Education.*

[9] Newmark, D., "An Analysis of the Student Body of the Philadelphia Normal School," *Educational Administration and Supervision*, II, 399–416, September, 1925.

[10] See Appendix, page 143, for a statement of the requirements.

of the first semester, to elementary school subject matter tests. Moreover, the applicant, besides submitting to a rigid physical examination, had to undergo a speech test conducted by the Department of Speech Improvement of the Board of Education. In addition, a personality rating was given each applicant by a faculty examining committee.

For the above reasons and also because the official files, containing the records of this group, were placed at the disposal of the investigator, the class that entered in September, 1925, and graduated in June, 1927, the first group required to meet the new entrance requirements and pursue the new curriculum, was selected for intensive study.

II

The Characteristics of the Class

Three hundred and forty-two students were admitted to the Philadelphia Normal School in September, 1925. These students came from high schools numbered in this study 1 to 11 inclusive. All but four of the students enrolled from Philadelphia High schools. Table I shows the high school source of normal school pupils and graduates.

There is a rather wide range in the total number of pupils contributed by the various schools. The conclusions reached, therefore, are conditioned by numerical limitations. High school 5, for instance, directed four pupils to the Philadelphia Normal School, while 65 pupils enrolled from high school 4. It is also to be noted that but five pupils registered from high school 10. From this table it is also apparent that there is a rather large student mortality inasmuch as but 65.2 per cent of those who entered, graduated. This means that 223 students passed the Philadelphia Normal School course successfully, while 119 failed to do so. It is interesting to note that high school 11 contributed greatly to the non-graduate group—only 28.4 per cent of this

TABLE I

High School Source of Normal School Pupils and Graduates

CONTRIBUTING SCHOOLS	TOTAL PUPILS	GRADUATES	NON-GRADUATES	PER CENT GRADUATES
1	29	24	5	82.7
2	48	31	17	64.6
3	58	46	12	79.0
4	65	34	31	52.3
5	4	3	1	75.0
6	49	31	18	63.3
7	25	16	9	64.0
8	33	21	12	63.3
9	12	10	2	83.3
10	5	3	2	60.0
11	14	4	10	28.4
Totals	342	223	119	65.2

high school group graduated. High school 4 also presents a high score for student mortality. The best record for persistence until graduation is held by high school 9, with a rating of 82.3 per cent.

In the study by Shultz,[1] already referred to in Chapter I, the author points out that by far the greater number of students in the class of June, 1927, School of Education, University of Pennsylvania, entered from Philadelphia high schools, the schools which supplied the majority of the class of June, 1927, Philadelphia Normal School.

Of the 153 students studied by Shultz, 108, or 72 per cent graduated, while 45, or 28 per cent, failed to finish. This is a much better record for persistence than that reported for the Philadelphia Normal School group, especially since the Pennsylvania course is two years longer than the Normal School course.

In January, 1925, 286 students were admitted to the Normal School. Of this number 223 graduated in January, 1927. This means that 78.0 per cent of the January, 1927, class graduated and 22.0 per cent failed to do so. Comparing this group with the class studied in the present investigation, it is discovered that the mortality is 13 per cent greater in the case of the June, 1927, class. Since the June, 1927, group was subjected to a stricter set of regulations and examinations than the January, 1927, group it is likely that the differences in graduation attainments of the two groups can thus be explained. It will be recalled that the June, 1927, group was the first to submit to elementary subject matter tests. Failure in these tests caused a number of students in this class to drop out during the first month of the first or probation term. In fact, prior to the giving of the Psychological Examination on October 13, 1925, 50 of the original group of 342 students had withdrawn.

1. *High School Average*

The following Table, No. II, indicates the average grade in mathematics and in English and the average high school grade

---

[1]Shultz, Irvin T., *A Descriptive and Predictive Study of a Class in a School of Education.*

made by students certified by principals of various high schools for entrance to the Philadelphia Normal School. The outstanding feature of this table is that in English and general average all high schools present averages of over 80; while in mathematics,

TABLE II

HIGH SCHOOL STANDINGS BY SCHOOLS

SCHOOL	NUMBER OF STUDENTS	ENGLISH	MATHEMATICS	HIGH SCHOOL AVERAGE
1	29	82.2	83.0	82.6
2	48	81.1	83.6	81.3
3	58	82.0	82.0	81.9
4	65	82.3	81.2	83.0
5	4	80.0	86.2	86.0
6	49	82.6	81.9	82.5
7	25	81.0	83.0	82.4
8	33	80.5	79.0	81.2
9	12	82.2	87.0	88.6
10	5	80.6	83.8	80.2
11	14	82.4	81.8	82.4
Total	342			
Medians		82.0	83.0	82.4

but one high school, high school 8, falls below the 80 average. Since the Board of Education rules pertaining to this group permitted students to enter with averages of 75 or more, it seems that the Board of Education rules have been observed in these three fields.

In Table III, the mathematics, the English, and the general averages are shown in order of highest to lowest. From this table it is discovered that the median of the averages in English for all high schools is 82.0; in mathematics it is 83.0; and in general average it is 82.4.

Table IV shows the mathematics, English, and general averages by sex and color. If the marks of the 283 girls are averaged, the average is found to be over 81. Taking the 59 boys alone it is discovered that an average of over 82 appears for each one of the subjects. In all three subjects the boys are in advance of the girls.

The admission averages of the white girls are considerably

above the admission averages of the colored girls. Since the colored group is considerably smaller than the white group no reliable conclusions can be drawn in regard to the relative merits of the two groups.

TABLE III

HIGH SCHOOL AVERAGES OF SCHOOLS ARRANGED HIGHEST TO LOWEST

SCHOOL	ENGLISH	SCHOOL	MATHEMATICS	SCHOOL	HIGH SCHOOL AVERAGE
6	82.6	9	87.0	9	88.6
11	82.4	5	86.2	5	86.0
4	82.3	10	83.8	4	83.0
1	82.2	2	83.6	1	82.6
9	82.2	1	83.0	6	82.5
3	82.0	7	83.0	7	82.4
2	81.1	3	82.0	11	82.4
7	81.0	6	81.9	3	81.9
10	80.6	11	81.8	2	81.3
8	80.5	4	81.2	8	81.2
5	80.0	8	79.0	10	80.2
Medians	82.0		83.0		82.4

TABLE IV

HIGH SCHOOL STANDING BY SEX AND COLOR

SEX AND COLOR	ENGLISH	MATHEMATICS	HIGH SCHOOL SCHOLARSHIP AVERAGE	NUMBER OF STUDENTS
White Boys	82.5	82.8	82.8	59
White Girls	81.7	82.0	82.4	273
Colored Girls	79.0	80.0	79.9	10
Total				342

Table III also shows that the range in entrance mathematics is from 87.0 to 79.0. High school 9 is found in first place and, as already stated, high school 8 comes at the opposite end of the list. In English the range is from 82.6, which average was attained by high school 6, to 80.0 which average was carried

into the Normal School by representatives of high school 5. Coming to general average, high school 9 is found in first place with an average of 88.6 and high school 10 is located in last place with 80.2. It is rather interesting to find high school 9 holding first place in mathematics, first place in high school average, and fifth place in English. On the other hand, high school 8 is last in mathematics and next to last in both English and high school average.

It is obvious, from the above discussion, that all the students coming from all the high schools arrived with acceptable credentials in the fields of high school English, high school mathematics, and high school general average.

2. *Elementary School Subject Matter Marks*

Table V shows the elementary subject matter examination averages by schools. High school 9 made the best average in arithmetic, the average being 96.3, while high school 10 attained the lowest subject matter average, 31.3. The average attained

TABLE V

SUBJECT MATTER EXAMINATION AVERAGES BY SCHOOLS

SCHOOL NUMBER	ARITHMETIC	HISTORY	ENGLISH	GEOGRAPHY I	GEOGRAPHY II
1	92.2	68.4	82.3	37.6	75.1
2	91.9	72.1	80.5	39.0	79.5
3	82.8	67.9	77.3	34.3	72.8
4	82.7	68.8	78.9	40.4	74.0
5	86.3	71.0	76.3	34.5	76.0
6	86.4	76.4	80.1	42.1	75.5
7	78.8	60.3	75.2	31.9	76.6
8	83.3	73.2	70.2	35.8	71.0
9	96.3	79.6	82.7	42.3	78.9
10	31.3	69.7	75.6	35.3	76.7
11	77.3	73.5	89.0	44.0	81.3
Average for all schools	86.0	70.5	78.2	37.9	75.2

by all the pupils from all high schools is 86.0. The history average for all pupils is but 70.5. First place is again held by

high school 9, with the score of 79.6. High school 7 comes at the end of the group with the average of but 60.3.

In the English subject matter examination the average for all students is 78.2. High school 11 leads with 89.0 with high school 9, which holds first place in arithmetic and history, in second place with 82.7. The last place average of 70.2 belongs to high school 8. When the students were examined in geography they failed miserably and attained an average of but 37.9. In fact, Table V shows that all the high school groups fell far below the passing grade of 70. The lowest average made is that credited to high school 7, which high school was also last in history. This high school has an average of 31.9. High school 11, referred to above as the leader in English, has the highest average in the geography test, 44.0. Only four students passed this first geography subject matter test. Inasmuch as most of the students were required to take a geography subject matter re-examination it was felt desirable to include the results attained in the re-examination on Table V. The achievement of students in geography showed a marked improvement in the geography re-examination. The average attained by all the students in the second test is 75.2 which is an appreciable advance over the average of 37.9 secured by the students in the first examination. High school 11 once more heads the high schools with an average of 81.3 while high school 8 is again in last place with 71.0.

Arranging the elementary subject matter averages from

TABLE VI

SUBJECT MATTER EXAMINATION AVERAGES
BY SEX AND COLOR

	ARITH-METIC	HISTORY	ENGLISH	GEOGRA-PHY I	GEOGRA-PHY II
White Boys.....	89.6	74.8	76.0	36.8	74.7
White Girls.....	85.6	70.1	78.7	38.4	75.2
Colored Girls.....	84.1	68.1	73.4	31.0	76.0
Average for all students.....	86.0	70.5	78.2	37.9	75.2

highest to lowest, arithmetic comes first, English second, geography II third, history fourth, and geography I a poor last.

Table VI shows elementary subject matter averages by sex and color. In arithmetic boys come first, white girls second, and colored girls third. The same order obtains in history. In English and geography I the white girls are in first place, the white boys in second place, and colored girls in last place. In geography II the colored girls come first, the white girls second the white boys last.

3. *Personality Ratings*

Table VII gives the number and percentage of each personality rating. There is a rather interesting distribution of personality ratings, as shown in the table. Only 4.4 per cent of the students, and there were 342 rated, received an unsatisfactory rating. 40.1 per cent were marked fair, 47.6 per cent good and 7.9 per cent excellent. These same personality ratings are shown by sex and color in Table VIII. It is interesting to note that a larger percentage of girls than boys received ratings in the two upper categories, while a larger percentage of boys than girls appear in the unsatisfactory and fair groups.

TABLE VII

PERSONALITY RATINGS

	NUMBER	PER CENT
Unsatisfactory	15	4.4
Fair	137	40.1
Good	163	47.6
Excellent	27	7.9
Totals	342	100.0

4. *Age*

Table IX shows the age groupings of all students by sex and color. It is interesting to note that four students, two of whom are boys and two girls, were but 15 years old when they entered the Normal School. Thirty-nine girls and seven boys

TABLE VIII

PERSONALITY RATINGS BY SEX AND COLOR

	UNSATISFACTORY		FAIR		GOOD		EXCELLENT		TOTAL
	NO.	%	NO.	%	NO.	%	NO.	%	
White Boys....	5	8.5	31	52.5	18	30.5	5	8.5	59
White Girls....	10	3.7	99	36.3	142	52.0	22	8.0	273
Colored Girls..			7	70.0	3	30.0			10
Totals....	15		137		163		27		342

were 16 years old. In the oldest age group which is 22, there is one girl. Most of the students were 17 and 18 when they entered. In fact, Table X shows that 76.3 per cent of all the girls fall within these two groups. 72.9 per cent of the boys were also located in the same age classifications. In Table IX it is shown that 90 per cent of the colored girls were 17 or 18 years old at entrance. The average age of the 283 girls in the class is 17.3, while the average age of the 59 boys is 17.4.

TABLE IX

AGE GROUPINGS BY SEX AND COLOR

	15	16	17	18	19	20	21	22	TOTAL
White Boys...	2	7	24	19	4	2	1		59
White Girls...	2	39	137	70	16	4	4	1	273
Colored Girls..			6	3		1			10
Totals.....	4	46	167	92	20	7	5	1	342
Per Cent...	1.2	13.5	48.8	26.9	5.8	2.0	1.5	.3	100%

5. *Speech*

Almost one-third (31.8 per cent) of the 342 students, accepted at entrance, were required, because of speech defects, to attend the clinic every afternoon while pursuing the Normal School course. Nearly 12 per cent (11.7 per cent)

TABLE X

Age Groupings—All Students By Sex

AGE	TOTAL	15		16		17		18		19		20		21		22	
		NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%
Boys	59	2	3.4	7	11.8	24	40.7	19	32.2	4	6.8	2	3.4	1	1.7		
Girls	283	2	.7	39	13.8	143	50.5	73	25.8	16	5.7	5	1.8	4	1.4	1	.3
Total	342	4		46		167		92		20		7		5		1	

were possessed of minor speech defects and were told that they would doubtless overcome the handicaps in the English courses. More than half (56.5 per cent) of the students were diagnosed as having no speech defects (see Table XI).

TABLE XI

SPEECH DEFECTS

	NUMBER	PER CENT
None	193	56.5
To be corrected	40	11.7
Conditioned on Clinic Attendance	109	31.8
Totals	342	100.0

Turning to Table XII a marked difference between the boys and girls is found in regard to speech defects. Only one-fifth of the boys were without defects while more than six-tenths of the white girls and 80 per cent of the colored girls were without defects. Two-thirds of the boys were assigned to the clinic while only one-fourth of the white and one-fifth of the colored girls were forced to attend the daily clinic.

TABLE XII

SPEECH DEFECTS BY SEX AND COLOR

	NONE		TO BE CORRECTED		CLINIC		
	NO.	%	NO.	%	NO.	%	TOTAL
White Boys	12	20.3	8	13.6	39	66.1	59
White Girls	173	63.4	32	11.7	68	24.9	273
Colored Girls	8	80.0			2	20.0	10
Totals	193		40		109		342

6. *Intelligence*

As shown in Table XIII, almost one-half of the 292 students of the class under observation who were given Brown University Intelligence Tests made raw scores ranging from 40 to 49. Nine

students fell into the very low group of 20 to 29, and only 7.5 per cent achieved raw scores of 60 to 69. The median raw score made by the 292 Normal School students tested is but 48. This is far below the median raw score of 63 for Brown University Freshmen.[2]

Table XIV shows that none of the boys or girls made raw scores in the seventy's or the eighty's although it is possible to go as high as 87 in raw score on the Brown Test. The highest raw score made by any student was 68. Only 6.2 per cent

TABLE XIII

NUMBER AND PER CENT OF NORMAL SCHOOL STUDENTS DISTRIBUTED ON BASIS OF INTELLIGENCE SCORES

RAW SCORE GROUPS	NUMBER	PER CENT
20–29	9	3.1
30–39	43	14.7
40–49	129	44.2
50–59	89	30.5
60–69	22	7.5
	292	100.0
No rating	50	
Total	342	
Median Raw Score—48		

of the boys fall in the 60 to 69 group. 7.6 per cent of the white girls and 11.1 per cent of the colored girls are found in the same group. Of the total tested which is 292, 129 or 44.2 per cent of the students secured raw scores of from 40 to 49.

The scores made in the Brown University Intelligence Test by the 223 students in the class who graduated produced a median of 48 and a first and fourth quartile range from 22 to 42 and 54 to 68. When the results obtained from the normal school group are compared in deciles with those secured at Brown University the conclusions are impressive.

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[2] MacPhail, A. H., *The Intelligence of College Students*, p. 99.

TABLE XIV

INTELLIGENCE SCORES OF NORMAL SCHOOL STUDENTS BY SEX AND COLOR*

	20–29		30–39		40–49		50–59		60–69		TOTAL	NO MARK
	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%		
White Boys			6	12.5	25	52.1	14	29.2	3	6.2	48	11
White Girls	8	3.4	34	14.5	102	43.4	73	31.1	18	7.6	235	38
Colored Girls	1	11.1	3	33.4	2	22.2	2	22.2	1	11.1	9	1
Totals	9		43		129		89		22		292	50

*Percentages based on number having marks.

The lowest decile at Brown falls below 46. Of the Philadelphia Normal School students under observation, 99 or 44.4 per cent fall below 46. The Brown median[3] was 63 and among the normal school group only 10 students, or about 4.4 per cent exceeded this median score.

The deciles are as follows:

Philadelphia Normal.....	36 50	41 52	44 55	46 59	48 (median)
Brown.....	46 66	53 69	57 73	60 77	63 (median)

Thus it is seen that the comparison is not favorable to the normal school group. The results appear to show that the Philadelphia Normal School is attracting and graduating pupils of relatively inferior mental equipment as compared with Brown University.

7. *Physical Defects*

Less than 40 per cent of the students in the class of June, 1927, entered without physical defects. The remaining 60 per cent possessed one or more defects. In fact, one student had as many as nine different defects. As shown in Table XV, the majority of the students who possessed physical defects, which did not bar them from the Normal School, had but one or two defects. Table XVI indicates that the boys had fewer physical defects, on a percentage basis, than did the girls. Only 38 per cent of the white girls were admitted without defects, while 40 per cent of the colored girls and 47.5 per cent of the boys were diagnosed as having no defects.

8. *Birthplaces of Students and Their Parents*

The statistics obtained in reference to the birthplaces of students and parents are interesting and should be commented upon at least briefly. The fact that 93.0 per cent of the students were born in the United States, if considered without reference to

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[3] MacPhail, A. H., *The Intelligence of College Students*, p. 97.

TABLE XV

NUMBER AND PER CENT OF NORMAL SCHOOL STUDENTS HAVING NO PHYSICAL DEFECTS AND HAVING ONE OR MORE PHYSICAL DEFECTS

NO. OF DEFECTS	NO. STUDENTS	PER CENT
0	136	39.8
1	87	25.4
2	61	17.8
3	22	6.4
4	21	6.2
5	8	2.3
6	3	.9
7	3	.9
9	1	.3
Totals	342	100.0

TABLE XVI

PHYSICAL DEFECTS BY SEX AND COLOR

	DEFECTS		NO DEFECTS		TOTAL
	NO.	%	NO.	%	
White Boys	31	52.5	28	47.5	59
White Girls	169	62.0	104	38.0	273
Colored Girls	6	60.0	4	40.0	10
Totals	206		136		342

the nationality of the parents, may lead to the conclusion that the worries of the English instructors in the Philadelphia Normal School are few. When, however, it is discovered that but 48.83 per cent of the fathers and 49.5 per cent of the mothers were born in this country, it must be concluded that the number of homes in which English is spoken exclusively is much less than the statistics for student nativity would lead one to conclude. And, when it is considered that some of the American-born fathers married foreign-born mothers and vice versa, the problem is found to be further complicated.

In Table XVII, Russia is found in second place in regard to distribution of birthplaces of students, fathers and mothers.

That the Russian mind is capable of high development is a well-established fact, but in attempting to master the English language, so essential in teaching in American schools, the "foreign student" is confronted by a difficult problem. It is true, of course, that many of the Russian students have succeeded in solving this problem, with the able assistance of the members of the English Department, but whether the majority is able to do so is a question that cannot be settled until better means are

TABLE XVII

DISTRIBUTION ON BASIS OF BIRTHPLACE OF STUDENTS, FATHER AND MOTHER

BIRTHPLACE	ALL STUDENTS		FATHER ALL STUDENTS		MOTHER ALL STUDENTS	
	NO.	%	NO.	%	NO.	%
United States	318	93.0	167	48.83	169	49.5
Russia	19	5.5	99	28.95	104	30.4
Germany, Austria, Hungary	....	.....	24	7.02	23	6.7
Italy	....	.....	12	3.05	9	2.6
England, Ireland, Scotland, and Wales	1	.3	24	7.02	23	6.7
Roumania	1	.3	8	2.34	7	2.0
Lithuania	....	.....	1	.29	....	.....
Norway, Sweden	....	.....	2	.58	3	.9
Foreign not otherwise specified	3	.9	5	1.46	4	1.2
Totals	342	100.0	342	100.00	342	100.0

devised to follow up the progress of the Russian students.[4] These same conclusions apply, of course, to all students of foreign parentage. The Russian group of students is used as an example because they are the largest group of foreign parentage.

When the data for the boys are considered apart from those for the girls the "foreign element" problem stands out in bold relief. In Tables XVIII and XIX it is shown that a much greater percentage of the boys' parents than the parents of the girls were born in foreign countries.

[4] See Chapter V, Part II, in which some attempts have been made to do so.

In Table XX it is shown that only 3 out of 10 of the fathers of the boys were born in this country while 7 out of 10 were born in foreign lands. It is also shown in Table XX that 73 per cent of the mothers of the male group were born in foreign countries, while about one-fourth claim the United States of America as their native land. In Table XVIII, which shows the "Birthplaces of Fathers of Male Students," it is shown that Russia is in the lead with a score of 52.5 per cent while United States is a rather poor second with but 30.5 per cent. The data for "Birthplaces of Mothers of Male Students" is even more impressive since Russia was the birthplace of more than double the number of mothers claimed by the United States. It is to be observed that the score assigned here for Russia is 57.6 per cent while the United States has 27.1 per cent.

TABLE XVIII

	NO.	%
BIRTHPLACE OF MALE STUDENTS		
1. United States	51	86.4
2. Russia	8	13.6
Totals	59	100.0
BIRTHPLACE OF FATHERS OF MALE STUDENTS		
1. Russia	31	52.5
2. United States	18	30.5
3. Germany, Austria, Hungary	5	8.5
4. Italy	3	5.1
6. Roumania	1	1.7
7. Lithuania	1	1.7
Totals	59	100.0
BIRTHPLACE OF MOTHERS OF MALE STUDENTS		
1. Russia	34	57.6
2. United States	16	27.1
3. Germany, Austria, Hungary	3	5.1
4. Italy	3	5.1
5. England, Ireland, Scotland or Wales	2	3.4
6. Roumania	1	1.7
Totals	59	100.0

TABLE XIX

	NO.	%
BIRTHPLACE OF FEMALE STUDENTS		
1. United States	267	94.4
2. Russia	11	3.9
5. England, Ireland, Scotland and Wales	1	.3
6. Roumania	1	.3
9. Foreign, not otherwise specified	3	1.1
Totals	283	100.0
BIRTHPLACE OF FATHERS OF FEMALE STUDENTS		
1. United States	149	52.6
2. Russia	68	24.0
3. Germany, Austria, Hungary	19	6.7
4. Italy	9	3.2
5. England, Ireland, Scotland and Wales	24	8.5
6. Roumania	7	2.5
8. Norway or Sweden	2	.7
9. Foreign not otherwise specified	5	1.8
Totals	283	100.0
BIRTHPLACE OF MOTHERS OF FEMALE STUDENTS		
1. United States	153	54.1
2. Russia	70	24.7
3. Germany, Austria, Hungary	20	7.1
4. Italy	6	2.1
5. England, Ireland, Scotland and Wales	21	7.4
6. Roumania	6	2.1
8. Norway or Sweden	3	1.1
9. Foreign not otherwise specified	4	1.4
Totals	283	100.0

"The Summary Table of Birthplaces" shows that although there are more American-born fathers and mothers of the female students than foreign-born fathers and mothers the percentage differences are not very great. About 53 per cent of the fathers of the girls were born in this country and about 47 per cent in other lands. About 54 per cent of the mothers of the girls were born in the United States and 46 per cent elsewhere. In Table XIX, under "Birthplaces of Fathers of Female Students"

TABLE XX

SUMMARY TABLE OF BIRTHPLACES

	MALE	FEMALE
	%	%
A. STUDENTS		
American Born	86.4	94.4
Foreign Born	13.6	5.6
B. STUDENTS' FATHERS		
American Born	30.5	52.6
Foreign Born	69.5	47.4
C. STUDENTS' MOTHERS		
American Born	27.1	54.1
Foreign Born	72.9	45.9

Russia is again found in a prominent place. Here, however, United States leads Russia. Of a total of 283 fathers, 149 were born in this country while 68 were born in Russia. In the same table under "Birthplaces of Mothers of Female Students" it is discovered that the United States has a frequency of 153 while Russia has a frequency of 70.

The results in this study regarding birthplaces are very similar to those obtained in another survey conducted by the writer a few years ago.[5] In the earlier study 92.04 per cent of the students enrolled in the Philadelphia Normal School were born in the United States. Only 61.1 per cent of the fathers and but 63.5 per cent of the mothers of all the students were born in this country. Russia is in second place on the tables showing the Birthplaces of Students (male and female), Birthplaces of Students (female), and Birthplaces of Students (male). The following Table No. XXI, taken from the 1925 study, considers the data for the boys apart from those for the girls and emphasizes the importance of the "foreign element" problem. Like Table XX, of the present study, it shows that the male students possess the "foreign handicap" to a more marked degree than does the female group.

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[5] Newmark, David, "An Analysis of the Student Body of the Philadelphia Normal School," *Educational Administration and Supervision*, 11:399–416, September, 1925.

Other interesting facts from the 1925 study follow:

1. *Birthplaces of Fathers of Male Students*
   Russia leads list with..... 46.01%
   United States second with..... 30.08%
2. *Birthplaces of Mothers of Male Students*
   Russia leads list with..... 47.78%
   United States second with..... 31.85%
3. *Birthplaces of Fathers of Female Students*
   United States leads with..... 67.45%
   Russia is second with..... 13.92%
4. *Birthplaces of Mothers of Female Students*
   United States leads with..... 69.98%
   Russia is second with..... 14.65%

TABLE XXI

SUMMARY TABLE OF BIRTHPLACES[6]

	MALE	FEMALE
	%	%
A. STUDENTS		
American Born	81.41	94.21
Foreign Born	18.59	5.79
B. STUDENTS' FATHERS		
American Born	30.08	67.45
Foreign Born	69.92	32.55
C. STUDENTS' MOTHERS		
American Born	31.85	69.98
Foreign Born	68.15	30.02

Comparing the two studies, similar trends are found. The outstanding feature is the prominence of the Russian group. Especially impressive is the fact that more parents of the male students were born in Russia than in the United States. It is also interesting to note the increased percentage of Russian-born parents of girls in the present study as compared with the 1925 study and a corresponding decrease in the American-born parents of the girls. The change in the Russian group of fathers is from 13.92 per cent to 24.0 per cent and in the American group from 67.45 per cent to 52.6 per cent. The change

[6] From the 1925 study.

in the Russian group of mothers is from 14.65 per cent to 24.7 per cent and in the American group from 69.98 per cent to 54.1 per cent.

The Russian born are contributing more heavily than the United States to the Philadelphia Normal School enrollment in proportion to their percentage to the city's population. These data are presented in Table XXII. The emphasis regarding the Russian representation is much greater for the fathers of the boys than for the fathers of the girls.

The magnitude of the foreign background of the Philadelphia Normal School group is further emphasized when the class is compared with other groups of students. In a very interesting article the President of the State Teachers College, Montclair,

TABLE XXII

COMPARISON OF NATIVITY OF FATHERS OF BOYS AND GIRLS WITH ENTIRE CITY[7]

COUNTRY	CITY	NORMAL SCHOOL—CLASS OF JUNE, 1927	
		BOYS	GIRLS
	%	%	%
United States	56.27	30.5	52.6
Russia	11.81	52.5	24.0
Ireland, England and Scotland	6.01		8.5
Italy	13.02	5.1	3.2
Germany, Austria, Hungary	5.16	8.5	6.7
Poland	4.81		
Roumania	.54	1.7	2.5
Norway, Sweden, and Denmark	.30		.7
Lithuania	.71	1.7	
Canada	.19		
Balkan Peninsula	.18		
Czecho-Slovakia	.17		
Miscellaneous	.83		

New Jersey, presents the following information:[8]

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[7] *Report of the Bureau of Compulsory Education for year ending June 30, 1926*, Table 73, p. 116.

[8] Sprague, H. A., "Recruiting and Selecting the Best Personnel for the Teaching Service," *Schoolmen's Week Proceedings, 1930*, p. 209.

"Surveys of 47 teacher training institutions in nine states shows the percentage of students of foreign parents as follows: Connecticut, 37.1 per cent; Massachusetts, 35.5 per cent; Missouri, 31 per cent; Michigan, 27.8 per cent; California, 19 per cent; Colorado, 15 per cent; Pennsylvania, 14.5 per cent; Louisiana, 2.5 per cent; and New Jersey, 42.1 per cent of the fathers and 38.4 per cent of the mothers."

"In many state teachers colleges located in cities there are nearly twice as many students of foreign born parentage as we should expect from the proportion of foreign population in the state as a whole. In the case of New Jersey, the state's foreign population is 24 per cent of its total, while in its normal schools this 24 per cent of the population is furnishing approximately 42 per cent of the student population. Normal schools located in the city districts of Massachusetts have reported 50 per cent of the students from the homes of foreign born parents. One teacher training institution in New York City has reported 75 per cent of its students from the homes of foreign born. This situation presents a problem of cultural amalgamation. The teacher training schools must prepare these students to become leaders in American practices and ideals, and at the same time use the contributions of this foreign influence for the advancement of American culture."

9. *Occupations of Fathers*

Table XXIII shows the occupations of the students' fathers arranged according to Count's classification. The most startling

TABLE XXIII

OCCUPATIONS OF FATHERS

OCCUPATION	NO. OF STUDENTS	PER CENT
Proprietors	60	17.5
Professional Service	28	8.2
Managerial	41	12.0
Commercial	31	9.1
Clerical	14	4.1
Artisan-proprietors	43	12.6
Building and Related Trades	8	2.3
Machine and Related Trades	12	3.5
Miscellaneous Trades	11	3.2
Transportation Service	8	2.3
Public Service	14	4.1
Personal Service	2	.6
Common Labor	1	.3
Deceased, occupation unknown, retired, etc.	69	20.2
Totals	342	100.0

thing about the table is that one-fifth of the students' fathers were deceased, unemployed because of ill-health, in unknown occupations due to desertion, or retired. While sixty or 17.5 per cent of the fathers are listed as proprietors, many of those classified as such merely owned small stores and were struggling to eke out an existence. On the whole, fathers were found to be occupied in types of work which did not bring them large returns in the form of wages. It seems that, in general, the fathers belong to the so-called middle class.

In the article by Sprague,[9] referred to on page 44, some interesting facts are presented pertaining to the occupations of fathers of students. He offers the following information:

"Fifty-eight per cent of the students in the teacher training institutions of Massachusetts were recently reported to be from homes of unskilled or skilled laborers, and only 5.7 per cent from the homes of professionally trained parents. In Connecticut, 55 per cent have come from the homes of unskilled or skilled laborers and 5 per cent from professional parents. In New Jersey, 37.4 per cent have come from the homes of unskilled or skilled laborers and 8.3 per cent from professional parents. Pennsylvania's teacher training institutions have registered 47.2 per cent from the homes of unskilled and skilled laborers, and 9.9 per cent from professional homes. It should be noted that the skilled and unskilled laboring classes furnish approximately 7.7 per cent of the students in liberal arts colleges as compared with 30 per cent in the teachers colleges. It should also be noted that the per cent of students from the homes of professionally trained parents is approximately 210 per cent greater in liberal arts colleges than in teachers colleges."

In Table XXIII it is shown that but 8.2 per cent of the fathers of the Philadelphia Normal School group were engaged in professional pursuits. This figure compares favorably with the data presented by Dr. Sprague for other teacher-training groups.

10. *Summary*

(1) There is considerable variation with respect to the number of pupils sent to the Philadelphia Normal School by eleven contributing high schools. The smallest number of matriculants

[9] Sprague, H. A., "Recruiting and Selecting the Best Personnel for the Teaching Service," *Schoolmen's Week Proceedings*, 1930, p. 208.

was contributed by high school 5 while the largest number was contributed by high school 4. The former sent 4 students and the latter 65.

(2) Of the 342 students who enrolled in the Philadelphia Normal School in September, 1925, only 223 or 65.2 per cent graduated while 119 or 34.8 per cent failed to graduate. As compared with other groups, the student mortality of this class is very heavy.

(3) Data presented indicate that the students arrived from the high schools with acceptable credentials in the fields of high school English, high school mathematics, and high school scholarship average.

(4) On the whole, the students achieved very poorly in all of the elementary school subject matter examinations. In geography, especially, the results are very poor.

(5) The girls secured higher personality ratings than the boys who enrolled in the class under observation.

(6) Most of the students were 17 or 18 years old when they entered the Philadelphia Normal School. The range in ages was from 15 to 22. The average age of the 283 girls in the group was 17.3 and that of the 59 boys 17.4.

(7) Almost one-half of the students had speech defects at entrance. A marked difference between the boys and girls is found in regard to these defects. Only one-fifth of the boys were without defects while more than six-tenths of the girls were without defects.

(8) The median raw score made by Philadelphia Normal School students in the Brown University Intelligence Test was 48. This is far below the median raw score of 63 made in the same test by Brown University freshmen.

(9) Less than 40 per cent of the students entered the normal school without physical defects. The remaining 60 per cent possessed one or more defects.

(10) The statistics obtained in reference to birthplaces show that a very large percentage of the parents of the students were born in foreign countries.

(11) The Russian born are contributing more heavily than the United States born to the Philadelphia Normal School

enrollment in proportion to their percentage to the city's population. These data are presented in Table XXII. The emphasis regarding the Russian representation is much greater for the parents of the boys than for the parents of the girls.

(12) On the whole, the fathers of the students were found to be occupied in types of work which did not bring them large returns in the form of wages.

PART II

RELATIONSHIPS

III

Evidences of Success and Pre-Normal School Status

1. *Scholastic Average in Normal School and High School English Mark*

In Table XXIV normal school scholarship average is related to high school English average. The 223 students who graduated, and thereby received normal school averages, were arranged in 14 groups. These groups are represented by marks 75 to 89 inclusive. These groups were sorted on high school English average as shown in the above-mentioned table. It is to be noted that the highest average in high school English—90.2—was secured by the five students who completed the Normal School work with an average of 87. Last place in high school English average is held by the students with normal school average 77. A careful perusal of the table leads to the conclusion that there is a positive relationship between normal school scholarship average and high school English. By using the correlation technique to establish mathematical relationship between these two elements a correlation of +.47 was found, with P. E. ± .0353. The Pearson coefficient of correlation formula $r = \frac{\sigma x \cdot y}{n(\sigma x \cdot \sigma y)}$ was used.

The probable error formula which was used follows:

P. E. $= \frac{\pm .6745 (1 - r^2)}{\sqrt{N}}$. This correlation is significant and indicates that the high school English mark of a student has much predictive value.

2. *Scholarship Average in Normal School and High School Mathematics Mark*

Table XXIV also shows the relationship between the 14 different normal school averages and high school mathematics averages. Inspection leads to the general conclusion that the relationship between these two elements is not as close as between the two analyzed in section 1. The general impression is found to be a correct one when a correlation of +.33 is ascertained by the Pearson method. The P. E. = ± .0402.

3. *Scholarship Average in Normal School and High School Scholarship Average*

Table XXIV contains data pertaining to the relationship existing between normal school average and high school general average. It is to be observed that the high school average has far more predictive value than has high school mathematics

TABLE XXIV

SCHOLARSHIP AVERAGE IN NORMAL SCHOOL AS RELATED TO HIGH SCHOOL AVERAGES

NORMAL SCHOOL AVERAGE	NUMBER OF STUDENTS	HIGH SCHOOL ENGLISH AVERAGE	HIGH SCHOOL MATH. AVERAGE	HIGH SCHOOL GENERAL AVERAGE
75	1	82.0	84.0	81.0
77	4	76.2	75.5	76.5
78	8	76.6	81.5	78.8
79	16	79.2	79.9	78.6
80	22	81.3	81.0	81.0
81	28	80.4	81.8	81.3
82	35	81.8	82.5	83.0
83	43	82.9	81.7	83.2
84	32	83.5	83.5	84.0
85	14	84.5	84.0	84.7
86	10	84.6	87.3	87.0
87	5	90.2	89.0	87.8
88	4	88.5	85.0	88.5
89	1	82.0	88.0	87.0

and slightly more predictive value than high school English. In fact, when the correlation technique is employed, a correlation of $+.51$ for high school and normal school averages is found. The P. E. $= \pm .0334$. This high correlation leads to the conclusion that the scholarship average made by the students in high school is a very good index of what to expect of the individual along scholastic lines in the normal school. "School grades are better selective instruments than mental tests for determining the reliability and dependability of individuals."[1]

Figures 1 and 2 show graphically the relative markings or

[1] Adams, H. F., Furniss, L., and DeBow, L. A., "Personality as Revealed by Mental Test Scores and by School Grades," *Journal of Applied Psychology*, June, 1928, pp. 261–77.

evidences of success attained by graduates who had a certain range of high school averages. The graduates were arranged in four groups, those who had a mark of 90 to 94, 85 to 89, 80 to 84, 75 to 79. Each of these groups was sorted on Normal School average and practice teaching and the percentage of each group

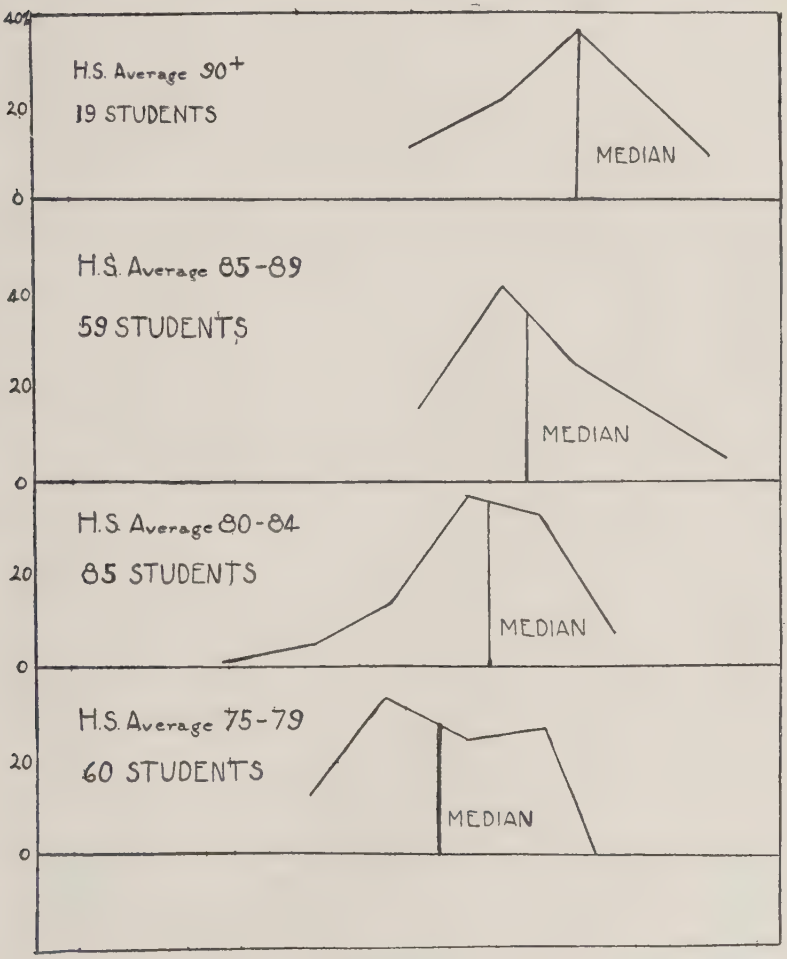

FIGURE 1

NORMAL SCHOOL AVERAGES ATTAINED BY STUDENTS IN EACH OF FOUR GROUPS BASED ON HIGH SCHOOL AVERAGES

TABLE XXV

NORMAL SCHOOL AVERAGES ATTAINED BY STUDENTS IN EACH OF FOUR GROUPS BASED ON HIGH SCHOOL AVERAGES

NORMAL SCHOOL AVERAGE	NUMBER	PER CENT OF GROUP
I HIGH SCHOOL AVERAGES 90 PLUS		
80	2	10.5
82–83	4	21.1
84–85	7	36.8
86–87	4	21.1
88	2	10.5
	19	100.0
Median	84.5	
II HIGH SCHOOL AVERAGES 85–89		
80–81	9	15.3
82–83	24	40.7
84–85	14	24.0
86–87	9	15.3
88–89	3	4.7
	59	100.0
Median	83.3	
III HIGH SCHOOL AVERAGES 80–84		
75	1	1.2
77–78	4	4.7
79–80	13	15.3
81–82	32	37.7
83–84	28	32.9
85–86	7	8.2
	85	100.0
Median	82.2	
IV HIGH SCHOOL AVERAGES 75–79		
77–78	8	13.3
79–80	20	33.3
81–82	15	25.0
83–84	16	26.7
85	1	1.7
	60	100.0
Median	80.9	

who received a certain rating on these evidences of success was plotted on the chart; together with the median rating.[2]

The 19 graduates who had high school scholarship averages of 90 and more secured a median of 84.5 in normal school scholarship. This group showed a very normal distribution, 31.6 per cent received 86 and better and only 31.6 per cent, 83 and below.

The 59 graduates, who had high school averages of 85 to 89, obtained a normal school scholarship median of 83.3. This group did not have as nearly a normal distribution as the first group and only 20 per cent had ratings of 86 and more, and 56 per cent, 83 and below.

In the third group, consisting of 85 graduates who had high school scholarship averages of 80 to 84, the normal school scholarship median was 82.2. In this group the distribution was quite skewed, only 23 per cent received 86 and more while 59 per cent received less than 83.

The fourth group, 60 graduates who had high school averages of 75 to 79, had a normal school scholarship median of 80.9. This group showed a bi-modal tendency indicating that there were a few students who did much better than the average. In this group, nearly 72 per cent received less than 83 and not one attained a rating of 86.

It seems evident that the students in the higher groups, based on high school average, made a more consistent showing in normal school than those in the lower groups. The median normal school average shows a consistent gain from group to group and the percentage of students receiving low normal school averages is much less in the higher groups than in the lower groups.

4. *Scholarship Average in Normal School and Elementary School Subject Matter Examination Marks*

The following five tables contain detailed information pertaining to the relationship between elementary school subject

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[2] Tables XXV and XLI contain the data from which Figures 1 and 2 were drawn.

matter examination marks and normal school achievement. Inasmuch as elementary subject matter test results are discussed later in this Chapter and in Part III, but a few outstanding facts are referred to at this time.

In Table XXVI, the group rated lowest in arithmetic has the highest normal school average, which is 82.7. However, it is to be noted that only three of the students who graduated, and accordingly received normal school averages, are found in the lowest arithmetic category while in the highest arithmetic group 134 graduates are found. It must also be borne in mind

TABLE XXVI

ELEMENTARY SUBJECT MATTER EXAMINATION MARKS

ARITHMETIC
GRADUATES

RATINGS	AVERAGE	NUMBER	PER CENT	N. S. AVERAGE	P. T. AVERAGE
30–39	33.3	3	1.4	82.7	81.7
40–49	43.0	5	2.3	80.2	83.0
50–59	53.9	9	4.1	82.1	83.3
60–69	63.6	14	6.3	81.9	85.4
70–79	73.0	25	11.3	82.2	84.2
80–89	82.3	31	14.0	82.0	82.1
90 plus	96.6	134	60.6	82.5	84.2
Total with marks.	86.0	221	100.0	82.3	83.9
No marks		2		82.0	85.0
Total		223			

NON-GRADUATES

RATINGS	AVERAGE	NUMBER	PER CENT
20–39	22.5	2	3.2
40–49	43.2	4	6.3
50–59	53.0	5	7.9
60–69	63.6	5	7.9
70–79	73.2	10	15.9
80–89	82.5	8	12.7
90 plus	95.9	29	46.1
Total with marks.	79.0	63	100.0
No marks		56	
Total		119	

that the three students in group 30–39, as evidenced by "graduation status", had the ability to raise their arithmetic marks to 70 or more in the re-examination. Those students who failed to master the elementary work and did not receive final averages are found in Table XXVI in the "non-graduates" section.

The 15 students, who had the highest elementary history ratings, in the graduation list—90 and above—had a normal school average of 84.0. This is the highest group average disclosed in Table XXVII. Second place is held by the second highest history group with a normal school average of 82.9. The lowest normal school average is held by the group which received but 30–39 in history subject matter. It thus appears that the relationship between proficiency in history and normal school average is closer than between arithmetic and normal school average.

The importance of English, as an indication of success in the normal school, is shown by the trend of normal school averages obtained by the students with various ratings on English subject matter. Commencing with the group which received 50–59 in English subject matter, whose normal school average was 81, the normal school averages increase consistently, though not in large increments, to 84.4 for those who obtained ratings of 90 or more in subject matter English. (See Table XXVIII.)

TABLE XXVII

ELEMENTARY SUBJECT MATTER EXAMINATION MARKS

HISTORY
GRADUATES

RATINGS	AVERAGE	NUMBER	PER CENT	N. S. AVERAGE	P. T. AVERAGE
27–29	27.0	1	.5	82.0	90.0
30–39	34.6	5	2.3	80.3	80.4
40–49	45.0	20	9.2	80.9	80.0
50–59	55.9	20	9.2	82.0	84.0
60–69	64.3	47	21.7	82.0	84.2
70–79	74.5	52	24.0	81.8	83.2
80–89	84.4	57	26.2	82.9	84.3
90 plus	92.1	15	6.9	84.0	86.0
Total with marks.	70.5	217	100.0	82.3	83.7
No marks		6		83.3	90.0
Total		223			

NON-GRADUATES

RATINGS	AVERAGE	NUMBER	PER CENT
17–29	17.0	1	1.8
30–39	36.8	5	8.8
40–49	44.0	6	10.5
50–59	55.5	8	14.0
60–69	65.8	10	17.5
70–79	73.4	11	19.3
80–89	83.0	14	24.6
90 plus	93.0	2	3.5
Total with marks.	65.5	57	100.0
No marks		62	
Total		119	

TABLE XXVIII

ELEMENTARY SUBJECT MATTER EXAMINATION MARKS

ENGLISH

GRADUATES

RATINGS	AVERAGE	NUMBER	PER CENT	N. S. AVERAGE	P. T. AVERAGE
45–49	46.5	2	.9	80.5	85.0
50–59	55.6	9	4.0	81.0	81.1
60–69	63.4	17	7.7	81.5	83.5
70–79	75.1	90	40.6	81.8	83.2
80–89	84.6	88	39.6	81.8	84.3
90 plus	92.5	16	7.2	84.4	88.1
Total with marks.	78.2	222	100.0	82.3	83.9
No marks		1		81.0	80.0
Total		223			

NON-GRADUATES

RATINGS	AVERAGE	NUMBER	PER CENT
43–49	46.8	4	6.3
50–59	55.4	8	12.7
60–69	63.1	11	17.5
70–79	72.5	28	44.4
80–89	85.5	10	15.9
90 plus	93.0	2	3.2
Total with marks.	70.0	63	100.0
No marks		56	
Total		119	

Of the students who received ratings in geography I, those who graduated made an average in normal school average of 82.3. This average is several points higher than the normal school average made by students who made less than 20 in the geography test. On the other hand, it is somewhat lower than the normal school average made by those who made 60 or more in the test. (See Table XXIX.)

In Table XXX, it is discovered that the 21 students who had the highest geography re-examination ratings, in the graduate lists—90 and above—had a normal school average 84.2. This is the highest normal school average disclosed in Table XXX. The lowest normal school average is shown to be 81.4 and was made by the group of 34 students who made 60–69 in the geography re-examination. Students who made below 70 in the second geography subject matter test are found in the graduate group by reason of the fact that they passed the other three subject matter subjects—arithmetic, history, and English—and also secured satisfactory ratings in the methods course in geography, pursued during the second semester of the first year.

Careful observation of the results of the subject matter tests reveals the fact that the students did their poorest work in geography.

TABLE XXIX

ELEMENTARY SUBJECT MATTER EXAMINATION MARKS

GEOGRAPHY I

GRADUATES

RATINGS	AVERAGE	NUMBER	PER CENT	N. S. AVERAGE	P. T. AVERAGE
6– 9	6.0	1	.5	78.0	75.0
10–19	16.1	22	10.1	81.3	80.7
20–29	24.6	40	18.4	82.1	83.9
30–39	34.9	58	26.8	82.1	84.5
40–49	44.1	49	22.6	82.8	84.3
50–59	54.9	37	17.0	82.3	82.6
60–69	62.7	6	2.8	84.5	90.8
70 plus	72.0	4	1.8	82.0	83.8
Total with marks.	37.9	217	100.0	82.3	83.7
No marks		6		83.3	90.0
Total		223			

NON-GRADUATES

RATINGS	AVERAGE	NUMBER	PER CENT
5– 9	7.3	3	5.3
10–19	16.0	7	12.3
20–29	25.2	12	21.0
30–39	34.2	16	28.0
40–49	44.4	7	12.3
50–59	52.4	9	15.8
60–69	63.0	1	1.8
70 plus	75.0	2	3.5
Total with marks.	34.7	57	100.0
No marks		62	
Total		119	

TABLE XXX

ELEMENTARY SUBJECT MATTER EXAMINATION MARKS

GEOGRAPHY II

GRADUATES

RATINGS	AVERAGE	NUMBER	PER CENT	N. S. AVERAGE	P. T. AVERAGE
52–59	56.6	12	5.6	82.5	85.8
60–69	63.1	34	16.0	81.4	82.2
70–79	73.4	97	45.5	82.0	83.7
80–89	83.7	49	23.0	82.4	83.5
90 plus	93.5	21	9.9	84.2	86.0
Total with marks.	75.2	213	100.0	82.3	83.7
No marks		10		82.8	87.5
Total		223			

NON-GRADUATES

RATINGS	AVERAGE	NUMBER	PER CENT
25–39	25.0	1	2.1
40–49	44.3	3	6.4
50–59	51.5	6	12.8
60–69	65.2	5	10.6
70–79	71.5	15	32.0
80–89	83.8	12	25.5
90 plus	92.6	5	10.6
Total with marks.	70.9	47	100.0
No marks		72	
Total		119	

5. *Practice Teaching Mark and High School English Mark*

In Table XXXI is found practice teaching average related to high school English average. The 223 students who graduated, and thereby received practice teaching averages, were arranged in six groups. These groups are represented by marks 70, 75, 80, 85, 90, 95. These groups were sorted on high school English average as shown in the Table. It is to be noted that the highest average in high school English, which is 84.8, was secured by the 16 students who completed the normal school work with the practice teaching average of 95. Last place in high school English average is held by the students with practice teaching average of 75. Careful observation of the Table leads to the conclusion that there is a positive relationship ($r = + .29$) between practice teaching average and high school English average. P. E. $= \pm .0415$.

TABLE XXXI

PRACTICE TEACHING IN NORMAL SCHOOL AS RELATED TO HIGH SCHOOL AVERAGES

P. T. AVERAGE	NO. OF STUDENTS	HIGH SCHOOL ENGLISH AVERAGE	HIGH SCHOOL MATH. AVERAGE	HIGH SCHOOL GENERAL AVERAGE
70	12	80.1	82.7	81.1
75	21	79.1	82.0	80.5
80	55	81.3	81.8	81.7
85	67	82.7	82.4	83.3
90	52	83.3	83.2	83.9
95	16	84.8	82.6	83.9
Total	223			

As an aid in determining the possible relationship between certain characteristics and evidences of success in Normal School, two groups were selected, hereafter designated Group "A" and Group "B".

Group "A" was composed of 68 students who received a grade of 90 or above in practice teaching, while group "B" was composed of 88 students who received a grade of 80 or below in practice teaching.

It was felt that by analyzing the characteristics of these two groups, some significant differences might be detected. (See Table XXXII which follows):

TABLE XXXII

GROUPS "A" AND "B" ON PRACTICE TEACHING BY SEX AND COLOR

GROUP "A" (68)

GIRLS				BOYS			
WHITE		COLORED		WHITE		COLORED	
NO.	PER CENT	NO.	PER CENT	NO.	PER CENT	NO.	PER CENT
62	91.2			6	8.8		

GROUP "B" (88)

GIRLS				BOYS			
WHITE		COLORED		WHITE		COLORED	
NO.	PER CENT	NO.	PER CENT	NO.	PER CENT	NO.	PER CENT
73	83.0	6	6.8	9	10.2		

Considering these figures from the standpoint of the per cent of boy and girl graduates attaining "A" or "B" group, the following table was deducted:

TABLE XXXIII

GRADUATES ATTAINING GROUPS "A" AND "B"

	GROUP "A"		GROUP "B"	
	NUMBER	PER CENT	NUMBER	PER CENT
Boy Graduates, 24.....	6	25.0	9	37.5
Girl Graduates, 199.....	60	30.3	79	39.7

The Group "A" and Group "B" technique, referred to on page 61, was also used to compare the groups hereafter designated

"A1" and "B1" and "A2" and "B2". It was felt that by analyzing the characteristics of these groups some significant differences might be detected.

Group "A1" was composed of 66 students who received a grade of 84 and above in normal school scholarship average, while group "B1" was composed of 51 students who received a grade of 80 or below in normal school scholarship average. (See Tables XXXIV and XXXV.)

Group "A2" was composed of 59 students who received a combined normal school scholarship and practice teaching grade (final average)[3] of 87 and above, while group "B2" was composed of 61 students who received a combined grade of 80 and below. (See Tables XXXVI and XXXVII.)

TABLE XXXIV

GROUPS "A1" AND "B1" ON NORMAL SCHOOL SCHOLARSHIP BY SEX AND COLOR

GROUP "A1" (66)

GIRLS				BOYS			
WHITE		COLORED		WHITE		COLORED	
NO.	PER CENT	NO.	PER CENT	NO.	PER CENT	NO.	PER CENT
59	89.4	1	1.5	6	9.1		

GROUP "B1" (51)

GIRLS				BOYS			
WHITE		COLORED		WHITE		COLORED	
NO.	PER CENT	NO.	PER CENT	NO.	PER CENT	NO.	PER CENT
37	72.5	6	11.8	8	15.7		

[3] The practice teaching and normal school scholarship averages are combined, on an equal basis, to form the final average. Graduates of the Philadelphia Normal School are placed on the "Eligible List for Teaching Positions" in the order of graduation, as determined by final averages. Assignments to vacancies in the Philadelphia public schools are dependent upon location on the "Eligible List."

Considering these figures from the standpoint of the per cent of boy and girl graduates attaining "A1" and "B1" group, the following table was deducted:

TABLE XXXV

GRADUATES ATTAINING GROUPS "A1" AND "B1"

	GROUP "A1"		GROUP "B1"	
	NO.	PER CENT	NO.	PER CENT
Boy Graduates, 24.....	6	25.0	8	33.3
Girl Graduates, 199.....	60	30.2	43	21.6

TABLE XXXVI

GROUPS "A2" AND "B2" ON FINAL AVERAGE BY SEX AND COLOR

GROUP "A2" (59)

GIRLS				BOYS			
WHITE		COLORED		WHITE		COLORED	
NO.	PER CENT	NO.	PER CENT	NO.	PER CENT	NO.	PER CENT
53	90.0			6	10.0		

GROUP "B2" (61)

GIRLS				BOYS			
WHITE		COLORED		WHITE		COLORED	
NO.	PER CENT	NO.	PER CENT	NO.	PER CENT	NO.	PER CENT
47	77.1	6	9.8	8	13.1		

Considering these figures from the standpoint of the per cent of boy and girl graduates attaining "A2" and "B2" group, the following table was deducted:

TABLE XXXVII

GRADUATES ATTAINING GROUPS "A2" AND "B2"

	GROUP "A2"		GROUP "B2"	
	NO.	PER CENT	NO.	PER CENT
Boy Graduates, 24.....	6	25.0	8	33.3
Girl Graduates, 199.....	53	26.6	53	26.6

The ratings in high school English were determined in the "A" and "B" groups and when compared on a basis of percentage attaining a given rating it is noticed that 39.7 per cent of the students in Group "A" attained a rating of 85 or more; while only 10.2 per cent of Group "B" attained such ratings. Conversely, only 16.2 per cent in Group "A" fell below 80; while in Group "B", 39.8 per cent were thus rated. (See Table XXXVIII.)

TABLE XXXVIII

HIGH SCHOOL ENGLISH GRADE DISTRIBUTION IN GROUPS "A" AND "B"

GROUP "A" (68)

	NO.	PER CENT
High School English Grades 90 and above.....	9	13.2
High School English Grades 85–89.....	18	26.5
High School English Grades 80–84.....	30	44.1
High School English Grades less than 80.....	11	16.2
Total.....	68	100.0

GROUP "B" (88)

	NO.	PER CENT
High School English Grades 90 and above.....	2	2.3
High School English Grades 85–89.....	7	7.9
High School English Grades 80–84.....	44	50.0
High School English Grades less than 80	35	39.8
Total.....	88	100.0

The ratings in high school English were determined in the "A1" and "B1" groups and when compared on a basis of the percentage attaining a given rating it is noticed that 50.0 per cent of the students in group "A1" attained a rating of 85 or more; while only 5.8 per cent of group "B1" attained such ratings. Conversely, only 10.6 per cent in Group "A1" fell below 80, while in group "B1", 53.0 per cent were thus rated. (See Table XXXIX.)

TABLE XXXIX

HIGH SCHOOL ENGLISH GRADE DISTRIBUTION IN GROUPS "A1" AND "B1"

GROUP "A1" (66)

	NO.	PER CENT
High School English Grades 90 and above	11	16.7
High School English Grades 85 to 89	22	33.3
High School English Grades 80 to 84	26	39.4
High School English Grades less than 80	7	10.6
Total	66	100.0

GROUP "B1" (51)

	NO.	PER CENT
High School English Grades 90 and above	1	1.9
High School English Grades 85 to 89	2	3.9
High School English Grades 80 to 84	21	41.2
High School English Grades less than 80	27	53.0
	51	100.0

The effect of combining practice teaching and normal school scholarship averages, as in groups "A2" and "B2", is clearly shown in Table XL, in which the students in the respective groups are sorted as to their mark in high school English. When the combined ratings are used it is shown that 44.1 per cent of the "A2" group received marks of 85 and more, as against 39.7 per cent receiving such marks in the "A" group.

Similarly, in the "B2" group 8.1 per cent received 85 and

above, while 10.2 per cent of the "B" group received such marks and 50.9 per cent of the "B2" group received less than 80, while in the "B" group only 39.8 per cent received such marks. This shows clearly that the use of both markings makes the selection for the two groups much more reliable. To put it another way, the "A2" group contains a larger percentage of students receiving higher marks, and the "B2" group contains a larger percentage receiving low marks than the "A" group and "B" group respectively. (See Table XL.)

TABLE XL

HIGH SCHOOL ENGLISH GRADE DISTRIBUTION IN GROUPS "A2" AND "B2"

GROUP "A2" (59)

	NO.	PER CENT
High School English Grades 90 and above.....	8	13.6
High School English Grades 85 to 89.....	18	30.5
High School English Grades 80 to 84.....	25	42.3
High School English Grades less than 80.....	8	13.6
	59	100.0

GROUP "B2" (61)

	NO.	PER CENT
High School English Grades 90 and above.....	1	1.6
High School English Grades 85 to 89.....	4	6.5
High School English Grades 80 to 84.....	25	41.0
High School English Grades less than 80.....	31	50.9
	61	100.0

6. *Practice Teaching Mark and High School Mathematics*

Table XXXI, presented on page 61, shows the relationship between the six different practice teaching averages and high school mathematics mark. Inspection leads to the general conclusion that the relationship between these two elements is

not as close as between the two analyzed in section 5. The general impression is found to be a correct one when a correlation of but + .03 is ascertained by the Pearson Method. P. E.= ± .0451. The correlation between practice teaching average and high school English is + .29. P. E. = ± .0415.

7. *Practice Teaching Mark and High School Scholastic Average*

Table XXXI also contains data regarding the relationship existing between practice teaching average and high school general average. At a glance it is seen that the high school average has less predictive value than has high school English. In fact, use of the correlation technique discloses a correlation of + .25 for high school general average and practice teaching mark. P. E. = ± .0424. It will be recalled that the correlation between high school English average and practice teaching average is + .29, with P. E. = ± .0415.

The practice teaching ratings of students in each of the four groups, referred to on page 53, showed characteristics similar to those discovered for normal school average, particularly with respect to the decline of the median from 86.6 in the first group to 85.7, 84.4 and 81.5, respectively, in the second, third and fourth groups. (See Table XLI.)

It seems evident that the students in the higher groups, based on high school average, made a better showing in normal school than those in the lower groups. The median practice teaching average shows a consistent gain from group to group and the percentage of students receiving the highest practice teaching averages—90 and 95—is greater in the higher groups than in the lower groups. (See Fig. 2.)

Tables XLII, XLIII, and XLIV present the averages attained in high school English, high school mathematics, and in high school average according to the "A" and "B", "A1", and "B1" and "A2" and "B2" groupings. It is clearly shown that in all three fields the "A", "A1", and "A2" groups have the better high school records. (See page 71.)

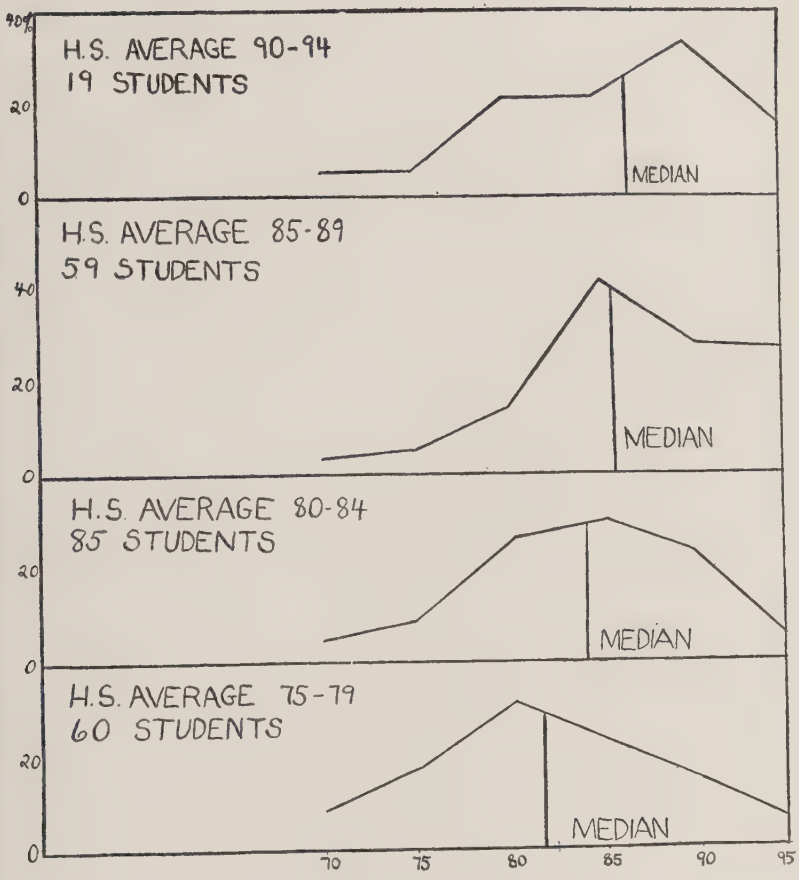

FIGURE 2

PRACTICE TEACHING AVERAGES ATTAINED BY STUDENTS IN FOUR GROUPS BASED ON HIGH SCHOOL AVERAGE

TABLE XLI

PRACTICE TEACHING AVERAGES ATTAINED BY STUDENTS IN FOUR GROUPS BASED ON HIGH SCHOOL AVERAGE

I HIGH SCHOOL AVERAGES 90 PLUS

PRACTICE TEACHING AVERAGE	NO.	PER CENT OF GROUP
70	1	5.3
75	1	5.3
80	4	21.0
85	4	21.0
90	6	31.6
95	3	15.8
	19	100.0
Median—86.6		

II HIGH SCHOOL AVERAGES 85–89

70	2	3.4
75	3	5.1
80	9	15.2
85	24	40.7
90	17	28.8
95	4	6.8
	59	100.0
Median—85.7		

III HIGH SCHOOL AVERAGES 80–84

70	4	4.7
75	7	8.2
80	23	27.1
85	25	29.4
90	20	23.5
95	6	7.1
Median–84.4	85	100.0

IV High School Averages 75–79

70	5	8.3
75	10	16.7
80	19	31.7
85	14	23.3
90	9	15.0
95	3	5.0
	60	100.0
Median—81.6		

TABLE XLII

Averages Attained in high School According to "A" and "B" Groupings

	HIGH SCHOOL ENGLISH	HIGH SCHOOL MATH.	HIGH SCHOOL AVERAGE
A Group—68 Students	83.7	83.1	83.9
B Group—88 Students	80.6	81.9	81.3

TABLE XLIII

Averages Attained in High School

According to "A1" and "B1" Groupings

	HIGH SCHOOL ENGLISH	HIGH SCHOOL MATH.	HIGH SCHOOL AVERAGE
"A1" Group 66 Students	84.8	84.8	85.3
"B1" Group 51 Students	79.6	80.4	79.6

TABLE XLIV

Averages Attained in High School

According to "A2" and "B2" Groupings

	HIGH SCHOOL ENGLISH	HIGH SCHOOL MATH.	HIGH SCHOOL AVERAGE
"A2" Group 59 Students	84.0	83.3	84.3
"B2" Group 61 Students	79.9	81.2	80.5

8. *Practice Teaching Mark and Elementary School Subject Matter Examination Marks*

Before presenting subject matter markings for Group "A" —90 and above in practice teaching—and Group "B"—80 and below in practice teaching—a few outstanding facts recorded in Tables XXVI to XXX inclusive will be referred to.

It is shown in Table XXVI that the group having the highest ratings in arithmetic, or those having 90 or over, were but slightly above, in practice teaching average, the average for all those having arithmetic marks. The average practice teaching average for all students having arithmetic ratings is 83.9; while the students in the highest arithmetic group secured 84.2 in practice teaching average.

The 15 students, who had the highest history ratings, in the graduates list—90 and above—had a practice teaching average of 86.0. This is really the highest group average disclosed in Table XXVII inasmuch as the practice teaching average of 90.0, assigned to 27–29 group, was obtained by the only student representing this group.

Table XXVIII shows the lowest practice teaching average, which was 81.1, was obtained by the students who secured such low marks in the English subject matter test that they were placed in group 50-59. On the other hand, the best practice teaching average, which was 88.1, was obtained by the students in the highest English subject matter group,—90 and above. While it is shown that, in general, there is an upward trend in practice teaching averages as related to English subject matter ratings, Table XXVIII also clearly shows that the correlation between practice teaching and English subject matter is not nearly so high as that between normal school average and English subject matter.

Of the students who received ratings in geography I, those who graduated made an average in practice teaching of 83.7. This average is several points higher than the practice teaching average made by students who made less than 20 in the geography subject matter test. On the other hand, it is somewhat lower than the practice teaching average made by those who made 60 or more in the test. (See Table XXIX.)

In Table XXX it is discovered that the 21 students who had the highest geography re-examination ratings, in the graduate list—90 and above—had a practice teaching average of 86.0. This is the highest practice teaching average disclosed in Table XXX.

Students in Group "A" were compared with students of Group "B" in subject matter markings. Comparisons were made in arithmetic, history, English, geography I and geography II.

Tables XLV, XLVI, XLVII, XLVIII, and XLIX show that, on the whole, the students who are in the "A" group, or those who obtained 90 or above in practice teaching, are superior in subject matter examination marks to students in Group "B" who received 80 or below in practice teaching. In English and history, especially, the "A" group is found to be more proficient than the "B" group. The narrowest differences are to be found in the fields of geography and arithmetic. But even in these two fields the "A" group is the preferred group.

TABLE XLV

SUBJECT MATTER EXAMINATION MARKINGS

GROUP A (90 AND ABOVE IN P. T.) AND GROUP B (80 AND BELOW IN P. T.)

ARITHMETIC

GROUP A—68 STUDENTS

Rating.....	30–39	40–49	50–59	60–69	70–79	80–89	90 plus	No mark
Number.....	1		3	5	8	5	45	1
Per Cent.....	1.5		4.5	7.5	11.8	7.5	67.1	
Cumulative Per Cent...			6.0	13.5	25.4	32.9	100.0	

GROUP B—88 STUDENTS

Rating.....	30–39	40–49	50–59	60–69	70–79	80–89	90 plus	No mark
Number.....	1	1	5	5	9	16	50	1
Per Cent.....	1.1	1.1	5.7	5.7	10.3	18.5	57.6	
Cumulative Per Cent...		2.2	7.9	13.6	23.9	42.4	100.0	

TABLE XLVI

SUBJECT MATTER EXAMINATION MARKINGS

GROUP A (90 AND ABOVE IN P. T.) AND GROUP B (80 AND BELOW IN P. T.)

HISTORY

GROUP A—68 STUDENTS

Ratings.	20–29	30–39	40–49	50–59	60–69	70–79	80–89	90–plus	No mark
Number.	1	1	4	5	14	10	21	8	4
Per Cent	1.6	1.6	6.2	7.8	21.9	15.6	32.8	12.5	
Cumulative Per Cent..		3.2	9.4	17.2	39.1	54.7	87.5	100.0	

GROUP B—88 STUDENTS

Ratings.	20–29	30–39	40–49	50–59	60–69	70–79	80–89	90 plus	No Mark
Number.		1	12	10	20	20	21	4	
Per Cent		1.1	13.6	11.4	22.7	22.7	23.9	4.6	
Cumulative Per Cent..			14.7	26.1	48.8	71.5	95.4	100.0	

TABLE XLVII

SUBJECT MATTER EXAMINATION RATINGS

GROUP A (90 AND ABOVE IN P. T.) AND GROUP B (80 AND BELOW IN P. T.)

ENGLISH

GROUP A—68 STUDENTS

Ratings	50–59	60–69	70–79	80–89	90 plus	No mark
Number	3	4	23	30	8	
Per Cent	4.4	5.9	33.8	44.1	11.8	
Cumulative Per Cent.		10.3	44.1	88.2	100.0	

GROUP B—88 STUDENTS

Ratings	50–59	60–69	70–79	80–89	90 plus	No mark
Number	6	9	38	32	2	1
Per Cent	6.9	10.3	43.7	36.8	2.3	
Cumulative Per Cent		17.2	60.9	97.7	100.0	

TABLE XLVIII

SUBJECT MATTER EXAMINATION MARKINGS

GROUP A (90 AND ABOVE P. T.) AND GROUP B (80 AND BELOW IN P. T.)

GEOGRAPHY I

GROUP A—68 STUDENTS

Ratings	10–19	20–29	30–39	40–49	50–59	60–69	70 plus	No mark
Number	2	15	16	14	10	6	1	4
Per Cent	3.1	23.4	25.0	21.9	15.6	9.4	1.6	
Cumulative Per Cent		26.5	51.5	73.4	89.0	98.4	100.0	

GROUP B—88 STUDENTS

Ratings	10–19	20–29	30–39	40–49	50–59	60–69	70 plus	No mark
Number	13	13	21	20	18	..	2	1
Per Cent	14.9	14.9	24.1	23.0	20.7	..	2.4	
Cumulative Per Cent		29.8	53.9	76.9	97.6	..	100.0	

TABLE XLIX

SUBJECT MATTER EXAMINATION MARKINGS

GROUP A (90 AND ABOVE IN P. T.) AND GROUP B (80 AND BELOW IN P. T.)

GEOGRAPHY II

GROUP A—68 STUDENTS

Ratings	50–59	60–69	70–79	80–89	90 plus	No mark
Number	4	8	31	12	8	5
Per Cent	6.4	12.7	49.2	19.0	12.7	
Cumulative Per Cent		19.1	68.3	87.3	100.0	

GROUP B—88 STUDENTS

Ratings	50–59	60–69	70–79	80–89	90 plus	No mark
Number	3	19	42	18	4	2
Per Cent	3.5	22.1	48.8	20.9	4.7	
Cumulative Per Cent.		25.6	74.4	95.3	100.0	

Students in group "A1" were compared with students of group "B1" in subject matter markings. Comparisons were made in arithmetic, history, English, geography I, and geography II. Results similar to those obtained in Groups "A" and "B" were secured. (See the five tables which follow.)

TABLE L

SUBJECT MATTER EXAMINATION MARKINGS

GROUP "A1" (84 AND ABOVE ON N. S. AVERAGE)
GROUP "B1" (80 AND BELOW ON N. S. AVERAGE)

ARITHMETIC

GROUP "A1" 66 STUDENTS

Ratings	30–39	40–49	50–59	60–69	70–79	80–89	90 plus	No mark
Number	1	..	3	3	4	7	48	
Per Cent	1.5	..	4.5	4.5	6.1	10.6	72.8	
Cumulative Per Cent.			6.0	10.5	16.6	27.2	100.0	

GROUP "B1" 51 STUDENTS

Ratings	30–39	40–49	50–59	60–69	70–79	80–89	90 plus	No mark
Number		3	3	5	5	7	28	
Per Cent		5.9	5.9	9.8	9.8	13.7	54.9	
Cumulative Per Cent.			11.8	21.6	31.4	45.1	100.0	

TABLE LI

SUBJECT MATTER EXAMINATION MARKINGS

GROUP "A1" (84 AND ABOVE ON N. S. AVERAGE)
GROUP "B1" (80 AND BELOW ON N. S. AVERAGE)

HISTORY

GROUP "A1" 66 STUDENTS

Ratings	30–39	40–49	50–59	60–69	70–79	80–89	90 plus	No mark
Number	1	4	4	10	13	23	9	2
Per Cent	1.5	6.1	6.1	15.2	19.7	34.8	13.6	3.0
Cumulative Per Cent		7.6	13.7	28.9	48.6	83.4	97.0	100.0

GROUP "B1" 51 STUDENTS

Ratings	30–39	40–49	50–59	60–69	70–79	80–89	90 plus	No Mark
Number		13	3	11	16	7	1	
Per Cent		25.5	5.9	21.6	31.4	13.7	1.9	
Cumulative Per Cent			31.4	53.0	84.4	98.1	100.0	

TABLE LII

SUBJECT MATTER EXAMINATION MARKINGS

GROUP "A1" (84 AND ABOVE ON N. S. AVERAGE)
GROUP "B1" (80 AND BELOW ON N. S. AVERAGE)

ENGLISH

GROUP "A1" 66 STUDENTS

Ratings	60–69	70–79	80–89	90 plus	No mark
Number	2	20	32	12	
Per Cent	3.0	30.3	48.5	18.2	
Cumulative Per Cent		33.3	81.8	100.0	

GROUP "B1" 51 STUDENTS

Ratings	40–49	50–59	60–69	70–79	80–89	90 plus	No mark
Number	1	4	5	25	15	1	
Per Cent	2.0	7.8	9.8	49.0	29.4	2.0	
Cumulative Per Cent		9.8	19.6	68.6	98.0	100.0	

TABLE LIII

SUBJECT MATTER EXAMINATION MARKINGS

GROUP "A1" (84 AND ABOVE ON N. S. AVERAGE)
GROUP "B1" (80 AND BELOW ON N. S. AVERAGE)

GEOGRAPHY I

GROUP "A1" 66 STUDENTS

Ratings..	10–19	20–29	30–39	40–49	50–59	60–69	70–79	80–89	90 plus	No mark
Number.	4	14	12	18	11	4	1			2
Per Cent	6.1	21.2	18.2	27.3	16.6	6.1	1.5			3.0
Cumulative Per Cent..		27.3	45.5	72.8	89.4	95.5	97.0			100.0

GROUP "B1" 51 STUDENTS

Ratings.	1–10	10–19	20–29	30–39	40–49	50–59	60–69	70–79	No Mark
Number.	1	11	12	12	7	7		1	
Per Cent	2.0	21.6	23.5	23.5	13.7	13.7		2.0	
Cumulative Per Cent..		23.6	47.1	70.6	84.3	98.0		100.0	

TABLE LIV

SUBJECT MATTER EXAMINATION MARKINGS

GROUP "A1" (84 AND ABOVE ON N. S. AVERAGE)
GROUP "B1" (80 AND BELOW ON N. S. AVERAGE)

GEOGRAPHY II

GROUP "A1" 66 STUDENTS

Ratings.....	50–59	60–69	70–79	80–89	90 plus	No mark
Number.....	3	6	25	16	13	3
Per Cent.....	4.5	9.1	37.9	24.3	19.7	4.5
Cumulative Per Cent.		13.6	51.5	75.8	95.5	100.0

GROUP "B1" 51 STUDENTS

Ratings.....	60–69	70–79	80–89	No Mark
Number.....	15	26	9	1
Per Cent.....	29.4	51.0	17.6	2.0
Cumulative Per Cent.		80.4	98.0	100.0

Students in group "A2" were compared with students of group "B2" in subject matter markings. Comparisons were made in arithmetic, history, English, geography I, and geography II. In general, results similar to those obtained in groups "A," "B", "A1", and "B1" were secured. (See the five tables which follow:)

TABLE LV

SUBJECT MATTER EXAMINATION MARKINGS

GROUP "A2" (87 AND ABOVE, COMBINED AVERAGE N. S. AND P. T.)
GROUP "B2" (80 AND BELOW, COMBINED AVERAGE N. S. AND P. T.

ARITHMETIC

GROUP "A2" 59 STUDENTS

Ratings	30–39	40–49	50–59	60–69	70–79	80–89	90 plus	No mark
Number	1		3	4	6	4	40	1
Per Cent	1.7		5.1	6.8	10.1	6.8	67.8	1.7
Cumulative Per Cent			6.8	13.6	23.7	30.5	98.3	100.0

GROUP "B2" 61 STUDENTS

Ratings	30–39	40–49	50–59	60–69	70–79	80–89	90 plus	No mark
Number	1	1	5	5	5	8	35	1
Per Cent	1.6	1.6	8.2	8.2	8.2	13.1	57.5	1.6
Cumulative Per Cent		3.2	11.4	19.6	27.8	40.9	98.4	100.0

TABLE LVI

SUBJECT MATTER EXAMINATION MARKINGS

GROUP "A2" (87 AND ABOVE, COMBINED AVERAGE N. S. AND P. T.)
GROUP "B2" (80 AND BELOW, COMBINED AVERAGE N. S. AND P. T.)

HISTORY

GROUP "A2" 59 STUDENTS

Ratings	30–39	40–49	50–59	60–69	70–79	80–89	90 plus	No mark
Number	1	4	4	14	8	29	5	3
Per Cent	1.7	6.8	6.8	23.7	13.5	33.9	8.5	5.1
Cumulative Per Cent		8.5	15.3	39.0	52.5	86.4	94.9	100.0

GROUP "B2" 61 STUDENTS

Ratings	30–39	40–49	50–59	60–69	70–79	80–89	90 plus	No mark
Number	1	12	6	13	15	13	1	
Per Cent	1.6	19.7	9.8	21.3	24.7	21.3	1.6	
Cumulative Per Cent		21.3	31.1	52.4	77.1	98.4	100.0	

TABLE LVII

SUBJECT MATTER EXAMINATION MARKINGS

GROUP "A2" (87 AND ABOVE, COMBINED AVERAGE N. S. AND P. T.)
GROUP "B2" (80 AND BELOW, COMBINED AVERAGE N. S. AND P. T.)

ENGLISH

GROUP "A2" 59 STUDENTS

Ratings	50–59	60–69	70–79	80–89	90 Plus	No mark
Number	2	3	21	25	8	
Per Cent	3.4	5.1	35.6	42.4	13.5	
Cumulative Per Cent		8.5	44.1	86.5	100.0	

GROUP "B2" 61 STUDENTS

Ratings	50–59	60–69	70–79	80–89	90 plus	No mark
Number	5	7	27	21		1
Per Cent	8.2	11.5	44.3	34.4		1.6
Cumulative Per Cent		19.7	64.0	98.4		100.0

TABLE LVIII

SUBJECT MATTER EXAMINATION MARKINGS

GROUP "A2" (87 AND ABOVE, COMBINED AVERAGE N. S. AND P. T.)
GROUP "B2" (80 AND BELOW, COMBINED AVERAGE N. S. AND P. T.)

GEOGRAPHY I
GROUP "A2"

Ratings	10–19	20–29	30–39	40–49	50–59	60–69	70–79	80–89	90 Plus	No Mark
Number	2	13	14	12	8	6	1			3
Per Cent	3.4	22.0	23.7	20.3	13.6	10.2	1.7			5.1
Cumulative Per Cent		25.4	49.1	69.4	83.0	93.2	94.9			100.0

GROUP "B2"

Ratings....	10–19	20–29	30–39	40–49	50–59	60–69	70–79	80–89	90 plus	No Mark
Number....	11	11	14	10	12		2			1
Per Cent...	18.0	18.0	23.0	16.4	19.7		3.3			1.6
Cumulative Per Cent.		36.0	59.0	75.4	95.1		98.4			100.0

TABLE LIX

SUBJECT MATTER EXAMINATION MARKINGS

GROUP "A2" (87 AND ABOVE, COMBINED AVERAGE N. S. AND P. T.)
GROUP "B2" (80 AND BELOW, COMBINED AVERAGE N. S. AND P. T.)

GEOGRAPHY II

GROUP "A2"

Ratings.....	50–59	60–69	70–79	80–89	90 plus	No mark
Number.....	4	9	24	11	7	4
Per Cent.....	6.8	15.2	40.7	18.6	11.9	6.8
Cumulative Per Cent.		22.0	62.7	81.3	93.2	100.0

GROUP "B2"

Ratings.....	50–59	60–69	70–79	80–89	90 plus	No mark
Number.....	2	14	29	12	2	2
Per Cent.....	3.3	23.0	47.5	19.6	3.3	3.3
Cumulative Per Cent.		26.3	73.8	93.4	96.7	100.0

9. *Graduate or Non-Graduate and High School English Mark*

In Table LX it is observed that the 223 students who passed successfully the normal school course and were listed as graduates came to the normal school with a better high school English average than those who did not graduate. The average high school English mark recorded in the tables for the graduates is 82.2, while the high school English average for the non-graduates is 81.1.

TABLE LX

HIGH SCHOOL AVERAGES MADE BY NORMAL SCHOOL GRADUATES AND NON-GRADUATES

	NUMBER	HIGH SCHOOL ENGLISH	MATHEMATICS	SCHOLARSHIP AVERAGE
Graduates.....	223	82.2	82.4	82.7
Non-Graduates.....	119	81.1	81.6	81.9

10. *Graduates and Non-Graduates and High School Mathematics Mark*

Table LX also places the graduates ahead of the non-graduates in high school mathematics average inasmuch as it records 82.4 for the graduates as against 81.6 for the non-graduates.

11. *Graduates or Non-Graduates and High School Scholarship Average*

Turning once more to Table LX it is discovered that the 223 normal school graduates achieved an average high school average of 82.1. This is slightly higher than the average high school average recorded for the non-graduates who made 81.9.

12. *Graduate and Non-Graduate and Elementary School Subject Matter Examination Mark*

Examining the ratings in arithmetic subject matter in Table XXVI, shown on page 56, it is noted that only 25.4 per cent of the graduates had less than 80 as compared with 41.2 per cent of the non-graduates. Conversely, 74.6 per cent of the graduates had 80 or more while only 58.8 per cent of the non-graduates had a rating of 80 or more.

The superiority of the graduates over the non-graduates in arithmetic subject matter is shown by reason of the fact that the average for 221 graduates is 86.0; while 63 non-graduates averaged 79.0.

Fig. 3 shows in block polygon form the superiority of the graduates over the non-graduates in arithmetic subject matter. It is to be observed that but 1.4 per cent of the graduates made

less than 40 while 3.2 per cent of the non-graduates made less than 40. On the other hand, 60.6 per cent of the graduates made 90 and above as against 46.1 per cent for the non-graduates.

Of the non-graduates, as shown in Table XXVII, 21.1 per cent had less than 50 in history while only 12 per cent of the graduates rated below 50. Including the next higher rating group observation discloses that 35.1 per cent of the non-graduates had less than 60 while only 21.2 per cent of the graduates had less than 60.

Examining the upper end of the rating scale 36.1 per cent of the graduates had a rating of 80 or more while only 28.1 per cent of the non-graduates attained such ratings.

The superiority of the graduates over the non-graduates in history subject matter is shown by reason of the fact that the average for 217 graduates is 70.5 while 57 non-graduates, who were rated in this subject, had an average of 65.5.

Fig. 3 also shows, on a percentage basis, the graduates' superiority over the non-graduates in history subject matter. It is to be observed that but 2.8 per cent of the graduates made less than 40 while 10.6 per cent of the non-graduates made less than 40. On the other hand, 6.9 per cent of the graduates made 90 and above as against 3.5 per cent for the non-graduates.

Table XXVIII shows that only 12.6 per cent of the graduates had ratings of less than 70 in English subject matter while 36.5 per cent of the non-graduates are comparable to this group.

46.8 per cent of the graduates attained ratings of 80 and more while 19.1 per cent of the non-graduates had such ratings. The average for 222 graduates was 78.2 per cent while 63 non-graduates averaged but 70.0 per cent.

Fig. 4 shows in per cents that graduates did better than non-graduates in English subject matter. It is observed that but .9 per cent of the graduates secured less than 50 while 6.3 per cent of the non-graduates made less than 50. On the other hand, 46.8 per cent of the graduates made 80 and above while 19.1 per cent of the non-graduates obtained marks of 80 and above.

Table XXIX shows that 55.8 per cent of the graduates had ratings below 40 as compared with 66.6 per cent of the non-graduates in the first geography test. It also shows that 21.6

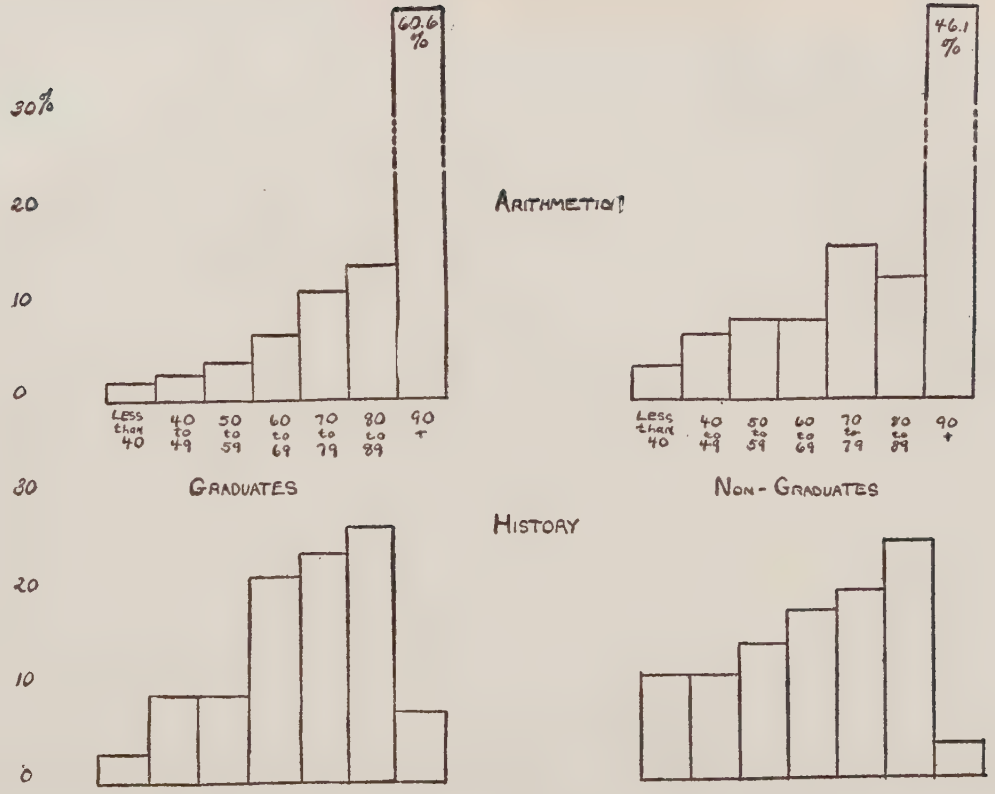

FIGURE 3

COMPARISON OF GRADUATES WITH NON-GRADUATES IN ELEMENTARY SUBJECT MATTER—ARITHMETIC AND HISTORY

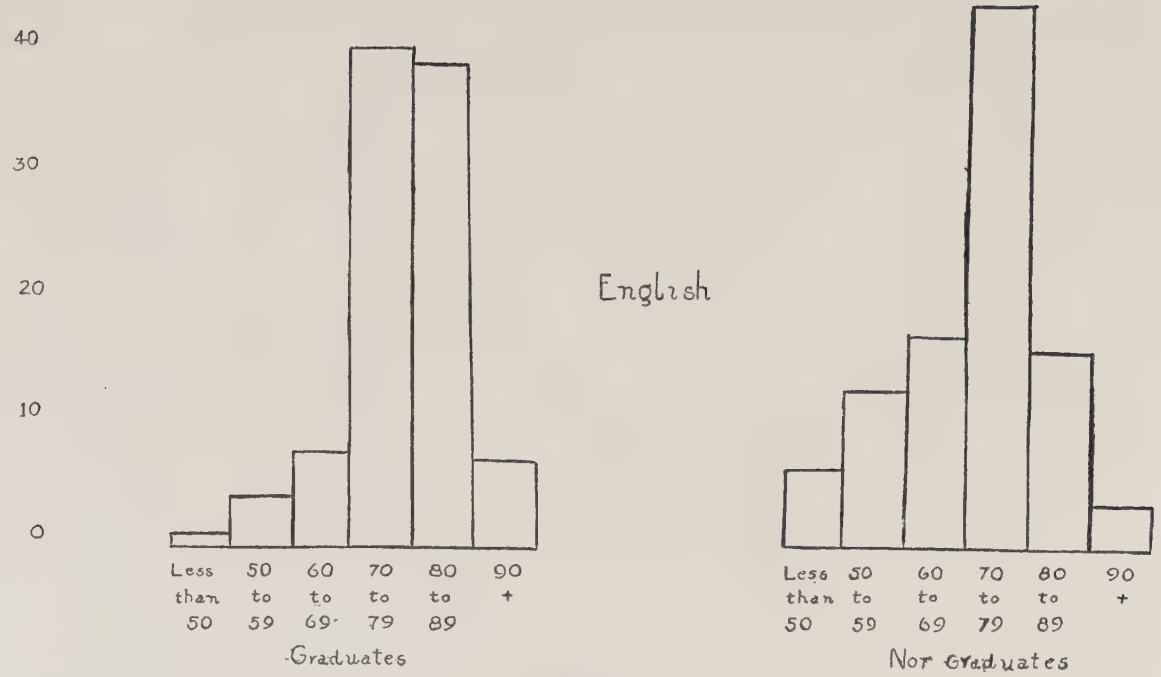

FIGURE 4

COMPARISON OF GRADUATES WITH NON-GRADUATES IN ELEMENTARY SUBJECT MATTER—ENGLISH

per cent of the graduates had 50 and more while 21.1 per cent of the non-graduates had such ratings.

The 217 graduates averaged 37.9 and were but slightly ahead of the 57 non-graduates who had an average of 37.4.

Table XXX presents the results for the geography subject matter re-examination. Here it is recorded that 67.1 per cent of the graduate students received ratings of less than 80 while 63.9 per cent of the non-graduates received such ratings. The total of 213 graduates averaged in this test 75.2 while 47 non-graduates had an average of 70.9.

Fig. 5 pictures the results in the two geography subject matter tests on a percentage basis. In both tests the graduates did a little better than the non-graduates. The graph shows that 10.6 per cent of the graduates made less than 20 in the first test while 17.6 per cent of the non-graduates made less than 20. It is also noted that the percentage of the graduates who made marks of 50 or more is higher than that for the non-graduates. The curve for the non-graduates is slightly higher than the graduate curve on both ends although, on the whole, the marks for all the graduates are slightly in advance of those for non-graduates.

For both the graduates and the non-graduates the curves in geography II are found to be quite different from the curves for geography I. Here the curves are skewed definitely towards the right, especially for the graduate group. This is due to the fact that but 5.6 per cent of the graduates had marks in the 50 group while 9.9 per cent reached the highest group of 90 and above. On the other hand, 12.8 per cent of the non-graduates are located in the 50 group while 10.6 per cent are in the 90 and above group.

The chart on the following page is included to show at a glance the relationships existing in subject matter averages between the graduates and non-graduates. In all subject matter tests the graduates are in advance of the non-graduates.

13. *Summary*

(1) There is a positive relationship between normal school

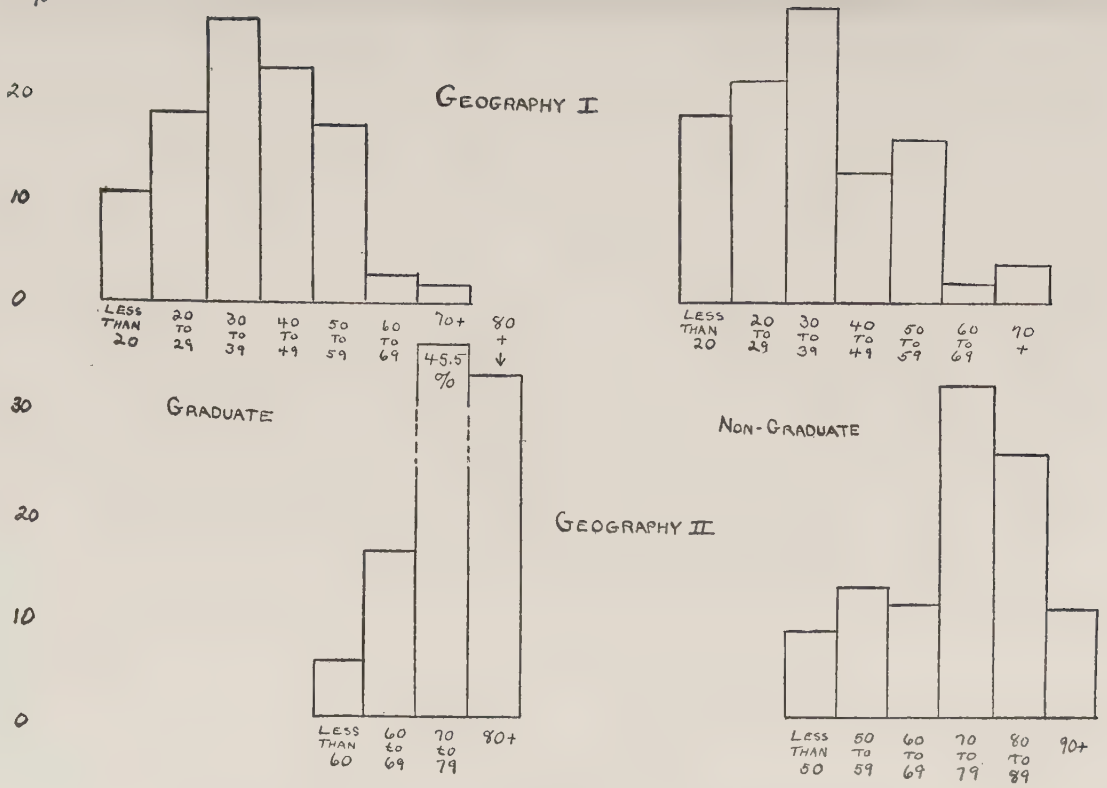

FIGURE 5

COMPARISON OF GRADUATES WITH NON-GRADUATES IN ELEMENTARY SUBJECT MATTER—GEOGRAPHY

scholarship average and high school English. A correlation of + .47 was found between these two elements. P. E. = ± .0353. This correlation is significant and indicates that the high school English mark of a normal school candidate has much predictive value.

(2) The correlation between scholastic average in the normal school and high school mathematics mark was found to be present but low. r = + .33, P. E. ± .0402.

(3) The scholarship average made by the students in high school is a very good index of what to expect of the individual along scholastic lines in the normal school. The correlation of + .51 with P. E. = ± .0334 found between high school and normal school scholarship averages indicates that high school scholarship average has slightly more predictive value than has high school English mark.

(4) The relationship between proficiency in elementary school history and normal school scholarship average is closer than between elementary school arithmetic and normal school scholarship average.

(5) The importance of English, as an indication of success in the normal school, is emphasized by the trend of normal school scholarship averages obtained by the students with various ratings in the English subject matter examination.

(6) The careful observation of the results of the subject matter tests reveals the fact that the students did their poorest work in geography.

(7) There is a positive relationship between practice teaching average and high school English average. The students in Group "A" (those who made 90 and above in practice teaching) achieved much better in high school English than did students in Group "B" (those who made 80 and below in practice teaching). Similar results were obtained in regard to the relationship between normal school scholarship average and high school English. The students in Group "A1" (those who made 84 and above in normal school scholarship) achieved much better in high school English than those in Group "B1" (80 and below in normal school scholarship). The effect of combining practice teaching and normal school scholarship averages is clearly shown when the

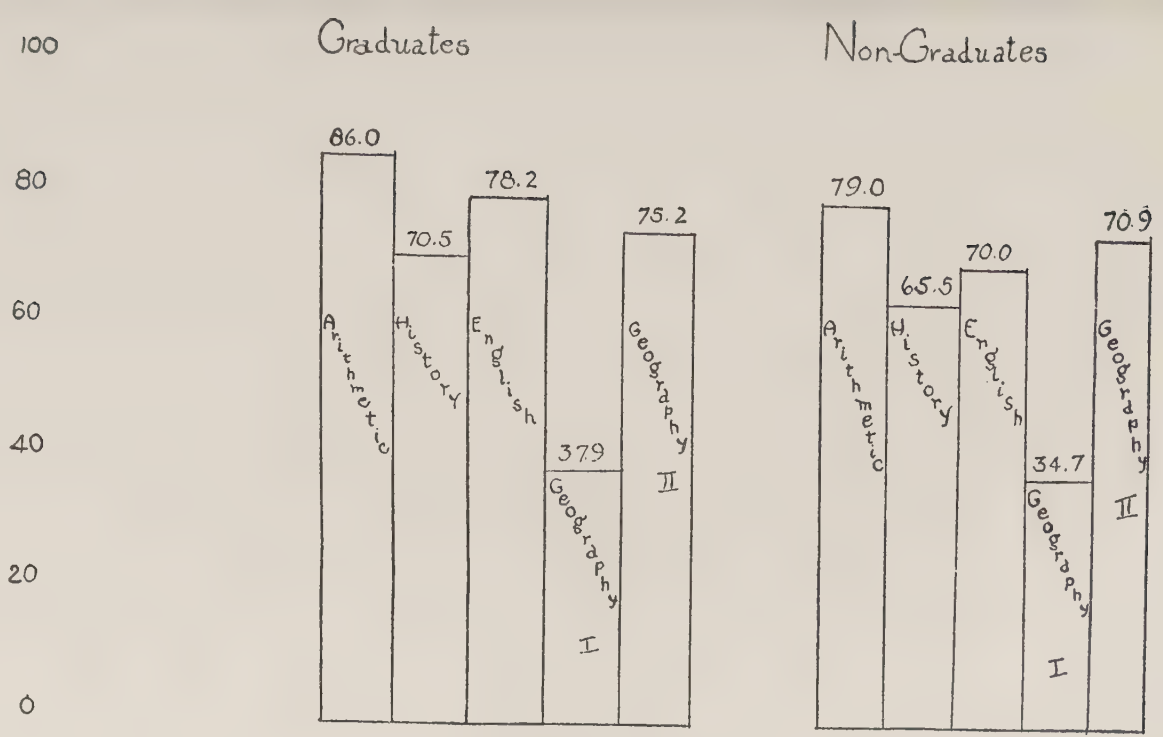

FIGURE 6
SUBJECT MATTER AVERAGES

students in Group "A2" and "B2" are compared in high school English. The "A2" group is decidedly the superior group.

(8) In considering practice teaching and high school mathematics it was discovered that the latter has little predictive value.

(9) The students in the higher groups, based on high school average, made a better showing in practice teaching than those in the lower groups.

(10) In high school English, high school mathematics, and high school scholarship average, the students in the "A", "A1", and "A2" groups are superior to those in the "B", "B1", and "B2" groups.

(11) Groups "A", "A1", and "A2" are superior to Groups "B", "B1", and "B2" in all four elementary subject matter fields.

(12) Higher averages in high school English, high school mathematics, and high school scholarship average were secured by the group listed as graduates in the class of June, 1927, Philadelphia Normal School, than were secured by the non-graduates.

(13) In all subject matter tests, the graduates did better than the non-graduates.

IV

Evidences of Success and Normal School Status

1. *Scholarship Average in Normal School and Personality Rating*

Scholarship average in normal school is related to personality rating as shown in Table LXI. It is of interest to note that the highest normal school scholarship average, 83.5, was attained by the group of 17 students who were rated at entrance as being excellent in personality. The lowest normal school scholarship average, 81.6, was secured by the group of 90 rated fair in personality. It is interesting to discover that of the 15 students, who were marked unsatisfactory in personality, six persisted in the normal school until graduation, and received a scholarship average of 82.5 which was .9 of a point better than the average secured by the "fair" group.

Bruce[1] has called attention to the fact that personality defects often cause young teachers to fail. In fact, he states that many teacher-training schools find some of their best academic students fail in teaching because of personality handicaps. Of the group of students who attained normal school scholarship averages of

TABLE LXI
P. T. and Scholarship Averages in Normal School and Personality Rating

Personality Ratings
Graduates

	Number	Normal School Scholarship	P. T.
Unsatisfactory	6	82.5	82.5
Fair	90	81.6	82.0
Good	110	82.5	85.0
Excellent	17	83.5	87.0
Totals	223	82.3	83.9

[1] Bruce, W. F., "Personality Development in Student Teachers," *Journal of Educational Research*, March, 1930, p. 191.

	Non-Graduates
Unsatisfactory	9
Fair	47
Good	53
Excellent	10
Total	119

80 and above only 2.8 per cent were rated unsatisfactory in personality; 35.1 per cent were rated fair, 53.9 per cent received good and 8.2 per cent excellent. On the other hand, in the group which attained normal school scholarship averages below 80, 4.6 per cent were marked unsatisfactory in personality, 58.2 per cent fair, 32.6 per cent good and 4.6 per cent excellent. It can thus be seen that, although high personality ratings appear generally with high scholarship averages and low personality ratings appear with low scholarship marks, in a number of cases the two elements fail to harmonize.

2. *Scholarship Average in Normal School and Age*

Table LXII shows the graduates and non-graduates by age and the normal school average of the graduates. The highest normal school average is indicated as 83.2 and in the possession of the group of five students listed as graduated who were in the 20-year-old category at entrance. The lowest normal school average recorded is 81.8 and was secured by the 54 graduates who were in the 18-year-old group when they matriculated. In normal school average the 15-year-old students are slightly higher than the 18-year-old students and on a par with the 19-year-old students since they have an average of 82.0. This average is but a fraction of a point below the average in normal school average for all the students who graduated.

3. *Scholarship Average in Normal School and Speech*

In Table LXIII the two elements, speech defects and normal school average, are found related. The best normal school average listed was attained by 127 graduates who were without speech defects. The average of this group was 82.4. In second

TABLE LXII

GRADUATES AND NON-GRADUATES BY AGE WITH NORMAL SCHOOL AND PRACTICE TEACHING AVERAGES OF GRADUATES

GRADUATES

AGE	NUMBER	N. S. AVERAGE	P. T. AVERAGE
15	3	82.0	78.3
16	32	82.9	84.2
17	115	82.4	84.1
18	54	81.8	83.0
19	11	82.0	84.5
20	5	83.2	87.0
21	3	82.3	86.7
Totals	223	82.3	83.9

NON-GRADUATES

15	1	
16	14	
17	52	
18	38	
19	9	
20	2	
21	2	
22	1	
Total	119	

place, with an average of 82.2, are found the students who at entrance were told they had minor speech defects which could be corrected in the Normal School English courses. The lowest normal school average, 82.1, was attained by the students who had speech defects which were serious enough to require daily clinical attendance. To fully appreciate the retarding effect of speech defects it will be necessary to supplement the above results with the data recorded in sections 8 and 13 of this chapter.

TABLE LXIII

P. T. AND NORMAL SCHOOL SCHOLARSHIP AVERAGE AND SPEECH DEFECTS

GRADUATES

	NUMBER	PER CENT	N. S. AVERAGE	P. T. AVERAGE
None	127	56.9	82.4	83.3
To be corrected	32	14.4	82.2	84.8
Conditioned on clinical attendance	64	28.7	82.0	83.5
Totals	223	100.0		

NON-GRADUATES

None	66	55.6		
To be corrected	8	6.7		
Conditioned on clinical attendance	45	37.7		
Totals	119	100.0		

4. *Scholastic Average in Normal School and Intelligence*

When the raw scores made, in the intelligence test, by the students who graduated are compared with normal school average, as shown in Table LXIV, the results do not correlate very well but they do correlate somewhat better than those for raw scores on the intelligence test and practice teaching. (See Section 9 of this chapter.) It is shown in this table that the highest normal school average, 83.3, was attained by the 21 graduates who made raw scores of 60 and over. The lowest normal school average, 81.1, was made by the 32 graduates making raw scores of 30 to 39. The five graduates who are located in the lowest raw score classification 20–29 made the impressive normal school average of 83.0 which is higher than the average normal school average made by all the students.

Fig. No. 7 shows the attainments of students who were in the first and fourth quartiles, based on raw score (intelligence). The groups are not exactly quartiles due to the fact that several

students had identical averages. The first quartile contains 59 students who scored 42 and less, while the fourth contains 57, who scored 54 plus. The low quartile received raw scores of 42

TABLE LXIV

P. T. and Scholarship Averages in Normal School and Raw Scores on the Intelligence Test

Raw Scores

Graduates

	NUMBER	N. S. AVERAGE	P. T. AVERAGE
20–29	5	83.0	85.0
30–39	32	81.1	80.8
40–49	94	82.2	84.1
50–59	71	82.7	85.0
60 plus	21	83.3	83.6
Totals	223	82.3	83.9

Non-Graduates

No ratings on intelligence test	50	
20–29	4	
30–39	11	
40–49	35	
50–59	18	
60 plus	1	
Total	69	

or less on the Brown Intelligence Test while the high quartile received 54 and above. The students in the low quartile placed as follows on the basis of normal school average:

NUMBER	SCHOLARSHIP AVERAGE	PER CENT
21	77–80	35.6
29	81–83	49.2
9	84 plus	15.2
59		100.0

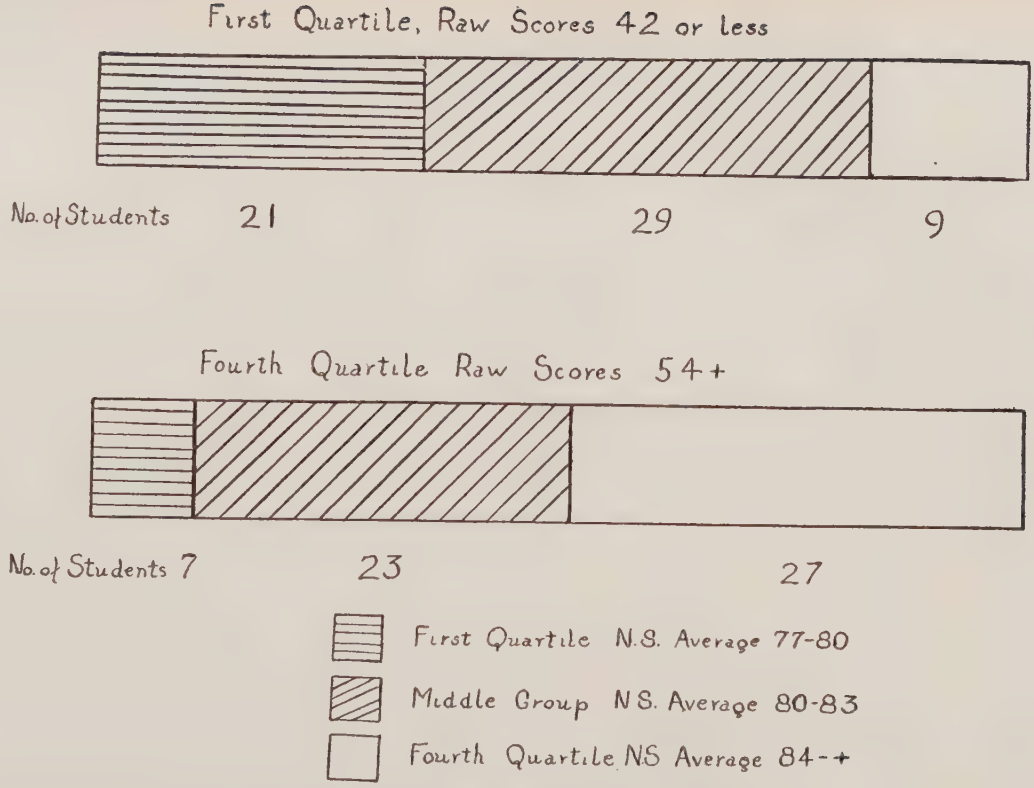

FIGURE 7

SCHOLARSHIP ATTAINMENTS OF STUDENTS WHO WERE IN THE FIRST AND FOURTH QUARTILES, BASED ON RAW SCORE (INTELLIGENCE

This shows that less than four out of ten from this group attain 80 or less in normal school average, five out of ten 81–83 and only about one out of ten, 84 and above. Thus, only one in ten would go from the low intelligence to the highest normal school average group. Making the same calculation for the high quartile on intelligence the following results are obtained:

NUMBER	SCHOLARSHIP AVERAGE	PER CENT
7	77–80	12.3
23	81–83	40.3
27	84 plus	47.4
57		100.0

Comparing this result, only one out of ten starting in the high intelligence group drops back to the low normal school average group. Four out of ten go back to the middle group and five out of ten stay in the corresponding rank.

5. *Scholarship Average and Physical Defects*

Physical defects as recorded were used as a factor in grouping the graduates but Table LXV shows but a very small difference in favor of the non-defective students. It is to be noted that an average of 82.7 was obtained by the graduates who had no physical defects while those who had physical defects completed the work with an average of 82.0. It is perhaps also worthwhile to point out that those in the graduate list who had no physical defects did slightly better in high school English, high school mathematics, and high school average than those graduates who had defects. When, however, the 342 students who matriculated in September, 1925, are grouped on the basis of physical defects no significant differences in high school ratings were disclosed. (See Table LXVI.)

It is possible that physical defects in some cases enhance rather than impair scholastic achievements since the students with physical defects may be excluded to some extent from extra-curricular activities and thus have more time for, and interest in, his studies. In this connection, it is interesting to note that one

TABLE LXV

P. T. and Scholarship Averages in Normal School and Physical Defects

Graduates

	NO.	PER CENT	H. S. ENG.	H. S. MATH.	H. S. AVERAGE	N. S. AVERAGE	P. T.
No physical defects	97	43.5	82.7	83.1	82.8	82.7	84.5
Defects	126	56.5	81.8	82.0	82.6	82.0	83.4
Totals	223	100.0					

Non-Graduates

No physical defects	39	33.0	80.4	80.9	81.2		
Defects	80	67.0	81.4	82.0	82.2		
Totals	119	100.0					

student having symptoms of eye strain, defective tonsils, carious teeth, anemia, stooped shoulders, nervous weakness and some other defect indicated as "Miscellaneous" had the following ratings:

High School English	94
High School Mathematics	90
High School Average	90
Normal School Average	83
Practice Teaching	90

TABLE LXVI

Physical Defects and High School Ratings

	NUMBER	HIGH SCHOOL ENGLISH	HIGH SCHOOL MATHEMATICS	HIGH SCHOOL AVERAGE
Students with no physical defects	136	82.04	82.44	82.36
Students with physical defects	206	81.62	81.97	82.45
Total	342			

It should be observed that while the students with the defects dealt with in this study are slightly below those without defects, in high school English and high school mathematics, they are a fraction ahead of their non-defective scholastic brothers and sisters in high school scholastic average.

Wessel,[2] in his recent investigation, states, "The facts presented do not confirm the popular impression that physical defects are a handicap to successful school work. There seemed to be very little difference in success in passing school subjects among those pupils who had physical defects and those who did not have any."

6. *Practice Teaching Average and Personality Rating*

The factor "personality rating" viewed with its possible relation to success in teaching, as measured by practice teaching grade, yielded the results found in Table LXI. (See page 91.) The highest average in practice teaching is that obtained by the group of 17 students who were marked excellent in personality. Second place goes to the 110 pupils graded good in personality. As was true in the case of normal school scholarship average the 90 students with the fair personality rating hold last place with a practice teaching average of 82.0. The group of six

TABLE LXVII

DISTRIBUTION OF PERSONALITY IN GROUPS "A" AND "B"

PERSONALITY RATING	GROUP "A"		GROUP "B"	
	NUMBER	PER CENT	NUMBER	PER CENT
Unsatisfactory	2	3.0	3	3.4
Fair	19	27.9	45	51.1
Good	40	58.8	37	42.1
Excellent	7	10.3	3	3.4
Total	68	100.0	88	100.0

[2] Wessel, Herman M., *The Secondary School Population in Some of Its Social and Economic Relationships*, p. 134.

marked unsatisfactory in personality have a slightly higher practice teaching rating than the fair group.

A rather marked difference between the "A" and "B" groups is shown when the distribution of personality in these groups is examined. (See Table LXVII.)

It is interesting to note that 30.9 per cent of Group "A" (90 and above in practice teaching) were rated "fair" or "unsatisfactory" while 54.5 per cent of Group "B" (80 and below in practice teaching) were thus classified. Conversely, 69.1 per cent of Group "A" were rated "good" or "excellent" while but 45.4 per cent of Group "B" were thus classified.

As was true for the "A" and "B" groups, rather marked differences are found between the "A1" and "B1" and the "A2" and "B2" groups when the distributions of personality in these groups are examined. (See Tables LXVIII and LXIX.)

It is interesting to discover that 33.3 per cent of group "A1" (84 and above in normal school scholarship average) were rated "fair" or "unsatisfactory" while 64.7 per cent of group "B1" (80 and below in normal school scholarship) were thus classified. Conversely, 66.7 per cent of group "A1" were rated "good" or "excellent" while but 35.3 per cent of group "B1" were thus classified.

It is also to be observed that 33.9 per cent of group "A2" (87 and above in combined normal school scholarship and practice teaching averages) were rated "fair" or "unsatisfactory" while 63.9 per cent of group "B2" (80 and below in combined

TABLE LXVIII

DISTRIBUTION OF PERSONALITY IN GROUPS "A1" AND "B1"

	GROUP "A1"		GROUP "B1"	
PERSONALITY RATING	NUMBER	PER CENT	NUMBER	PER CENT
Unsatisfactory	3	4.5	1	2.0
Fair	19	28.8	32	62.7
Good	34	51.5	16	31.4
Excellent	10	15.2	2	3.9
Total	66	100.0	51	100.0

normal school scholarship and practice teaching averages) were thus classified. Conversely, 66.1 per cent of group "A2" were rated "good" or "excellent" while but 36.1 per cent of group "B2" were thus classified.

TABLE LXIX

DISTRIBUTION OF PERSONALITY IN GROUPS "A2" AND "B2"

	GROUP "A2"		GROUP "B2"	
PERSONALITY RATING	NUMBER	PER CENT	NUMBER	PER CENT
Unsatisfactory.....	2	3.4	2	3.3
Fair.....	18	30.5	37	60.6
Good.....	32	54.2	20	32.8
Excellent.....	7	11.9	2	3.3
Total.....	59	100.0	61	100.0

Dr. H. A. Sprague,[3] President, State Teachers College, Montclair, New Jersey, states that, "Since personality correlates more highly with teaching success than any other teacher trait[4] and bears practically the same relation to professional promise as to teaching success, then certainly the prospective teacher's personality should receive some approximate measures." The Normal School faculty should, because of the importance of personality, carefully study the progress of the students and aim to eliminate those with outstanding character defects and help worthy candidates to improve their personalities before graduation.

7. *Practice Teaching Average and Age*

Table LXII (see page 93) shows the practice teaching averages attained by students in the age groups 15–21 inclusive. The highest practice teaching average of 87.0 was achieved by the five students who were placed in the 20-year-old category at

[3] Sprague, H. A., "Recruiting and Selecting the Best Personnel for the Teaching Service," *Schoolmen's Week Proceedings*, 1930, p. 211.

[4] It was stated in Chapter I that Somers found the correlation between personality and teaching success to be plus .61.

entrance. This same group, as shown in section 2 of this chapter, also had the highest normal school average. The lowest practice teaching average, 78.3, was secured by the youngest group of students—those in the 15-year-old category.

8. *Practice Teaching Average and Speech*

Table LXIII related the two elements speech defects and practice teaching average. Here it is found that the group of 32 students with minor defects, correctible in the regular English classes, obtained a practice teaching average of 84.8 which was one point higher than the practice teaching average obtained by the graduates who did not have speech defects. The lowest practice teaching average was secured by the 64 students whose speech defects required clinical attendance.

Defects in speech might be expected to affect seriously the ratings in practice teaching. Table LXX was designed to show the differences in groups "A" and "B" and the results indicate that the Group "A" was somewhat less subject to defects of this kind, 60.3 per cent being entirely free against 56.8 in Group "B", while only 25 per cent of Group "A" were conditioned upon clinical attendance against 33 per cent in Group "B".

TABLE LXX

SPEECH DEFECTS CONSIDERED IN RELATION TO PRACTICE TEACHING

(GROUPS "A" AND "B")

SPEECH DEFECTS	GROUP "A"		GROUP "B"	
	NUMBER	PER CENT	NUMBER	PER CENT
None	41	60.3	50	56.8
To be overcome	10	14.7	9	10.2
Conditioned on clinic attendance.	17	25.0	29	33.0
Total	68	100.0	88	100.0

Table LXXI was made to show the differences in groups "A1" and "B1" in regard to speech defects. The results indicate

that group "A1" was somewhat less subject to defects of this kind, 60.6 per cent being entirely free against 56.9 per cent in group "B1", while only 24.2 per cent of group "A1" were conditioned upon clinical attendance against 27.4 per cent in group "B1."

TABLE LXXI

SPEECH DEFECTS CONSIDERED IN RELATION TO NORMAL SCHOOL SCHOLARSHIP

(GROUPS "A1" AND "B1")

SPEECH DEFECTS	GROUP "A1"		GROUP "B1"	
	NUMBER	PER CENT	NUMBER	PER CENT
None	40	60.6	29	56.9
To be overcome	10	15.2	8	15.7
Conditioned on Clinic Attendance	16	24.2	14	27.4
Total	66	100.0	51	100.0

Results shown in Table LXXII resemble those found in Tables LXX and LXXI. In Table LXXII group "A2" is seen to be somewhat less subject to speech defects than group "B2", 59.3 per cent being without such defects as against 52.4 per cent in group "B2" while only 23.7 per cent of group "A2" were conditioned upon clinical attendance as against 32.8 per cent in group "B2."

TABLE LXXII

SPEECH DEFECTS CONSIDERED IN RELATION TO COMBINED NORMAL SCHOOL SCHOLARSHIP AND PRACTICE TEACHING AVERAGES

(GROUPS "A2" AND "B2")

SPEECH DEFECTS	GROUP "A2"		GROUP "B2"	
	NUMBER	PER CENT	NUMBER	PER CENT
None	35	59.3	32	52.4
To be overcome	10	17.0	9	14.8
Conditioned on Clinic Attendance	14	23.7	20	32.8
Total	59	100.0	61	100.0

9. *Practice Teaching Average and Intelligence*

In Table LXIV, shown on page 95, the students are compared on the basis of intelligence test scores and practice teaching averages. It is to be noted that these two elements do not correlate very highly. Table LXIV shows a tie score of 85.0 for students in group 20–29, the lowest group, and group 50–59, the next to the highest group. This practice teaching average is the highest obtained by any group. The lowest practice teaching average is that of raw score group 30–39. It is rather interesting to note that the highest raw score group, 60 and above, secured a practice teaching average of but 83.6 which is slightly lower than the average for all the students.

Results similar to those found in this study for scholarship and practice teaching, as related to intelligence test scores, were discovered by Pyle[5] who concludes his study as follows: "While intelligence test scores enable us to predict with some success the academic records of students they do not enable us to predict success in practice teaching nor later teaching success in actual service."

Going back to the grouping of students on Practice Teaching grades, Group "A" and Group "B", it is found that from the "A" group a larger percentage secured 50 and above than from the "B" group.

Of Group "A", 42.7 per cent attained raw scores of 50 and above; while but 31.8 per cent of Group "B" made such scores. On the other hand, only 8.8 per cent of Group "A" made raw scores of less than 40 as compared with 26.2 per cent of Group "B" who achieved such scores. It is interesting to discover that a larger percentage of students are found in Group "B" than in Group "A" in the highest raw score category, 60 and above. However, the percentage difference is not very great. Moreover, there are but few students in both groups classified in the highest raw score category. (See Table LXXIII which follows.)

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[5] Pyle, W. H., "The Relation Between Intelligence and Teaching Success: A Supplementary Study," *Educational Administration and Supervision*, April, 1928, pp. 257–67.

TABLE LXXIII

PRACTICE TEACHING AND RAW SCORES (INTELLIGENCE)

(GROUPS "A" AND "B")

GROUP "A"			GROUP "B"		
RAW SCORE	NUMBER	PER CENT	RAW SCORE	NUMBER	PER CENT
–30.....	2	2.9	–30.....	2	2.3
30–39.....	4	5.9	30–39.....	21	23.9
40–49.....	33	48.5	40–49.....	37	42.0
50–59.....	25	36.8	50–59.....	21	23.9
60 plus.....	4	5.9	60 plus.....	7	7.8
Total....	68	100.0	Total....	88	100.0

The foregoing analysis of the relationship between practice teaching average and intelligence permits the following statements:

1. The correlation between the intelligence scores and practice teaching average is too low to be significant for the group as a whole.

2. The results obtained by comparing the "A" and "B" groups have more or less significance. The students in the "A" group (90 and above in practice teaching) have a better "intelligence record" than the students in the "B" group (80 and below in practice teaching).

3. It cannot be stated on the basis of results obtained in this study just how much intelligence a prospective elementary school teacher needs, or just what the relationship is between practice teaching success and intelligence. It can be stated, however, that high intelligence is at least not a handicap in the development of practice teaching efficiency.

4. There are other traits than intelligence required for success in practice teaching. However, the importance of intelligence should not be ignored. It is probably wise to continue the policy of not eliminating a student on the intelligence test results alone. Such a drastic measure should be supported by high school record, judgment of teachers, language—ability, attitude, etc.

A larger percentage of group "A1" students received intelligence test raw scores of 50 and above than did students of group "B1". Of group "A1", 51.5 per cent attained raw scores of 50 and above; while but 25.5 per cent of group "B1" made such scores. On the other hand, only 7.6 per cent of group "A1" made raw scores of less than 40 as compared with 21.6 per cent of group "B1" who achieved such scores. (See Table LXXIV.)

TABLE LXXIV

NORMAL SCHOOL SCHOLARSHIP AVERAGE AND RAW SCORES
(INTELLIGENCE)
(GROUPS "A1" AND "B1)

GROUP "A1" (84 AND ABOVE ON N. S. AVERAGE)
GROUP "B1" (80 AND BELOW ON N. S. AVERAGE)

GROUP "A1"			GROUP "B1"		
RAW SCORE	NUMBER	PER CENT	RAW SCORE	NUMBER	PER CENT
–30.....	1	1.5			
30–39.....	4	6.1	30–40.....	11	21.6
40–49.....	27	40.9	40–50.....	27	52.9
50–59.....	23	34.8	50–60.....	10	19.6
60–69.....	11	16.7	60–69.....	3	5.9
Total..	66	100.0	Total..	51	100.0

TABLE LXXV

COMBINED AVERAGE AND RAW SCORES (INTELLIGENCE)
(GROUPS "A2" AND "B2")

GROUP "A2" (87 AND ABOVE, COMBINED AVERAGE N. S. AND P. T.)
GROUP "B2" (80 AND BELOW, COMBINED AVERAGE N. S. AND P. T.)

GROUP "A2"			GROUP "B2"		
RAW SCORE	NUMBER	PER CENT	RAW SCORE	NUMBER	PER CENT
–30.....	1	1.7	–30.....	1	1.6
30–39.....	3	5.1	30–39.....	16	26.2
40–49.....	30	50.8	40–49.....	25	41.0
50–59.....	21	35.6	50–59.....	17	27.9
60 plus.....	4	6.8	60 plus.....	2	3.3
Total..	59	100.0	Total..	61	100.0

Very similar data to those presented above were discovered for groups "A2" and "B2" as regards intelligence test raw scores. Of group "A2", 42.4 per cent received raw scores of 50 and above; while only 31.2 per cent of group "B2" made such scores. On the other hand, only 6.8 per cent of group "A2" made raw scores of less than 40 as compared with 27.8 per cent of group "B2" who achieved such scores. (See Table LXXV.)

10. *Practice Teaching Average and Physical Defects*

The graduates with no physical defects, as reported in this study, are a little ahead of the graduates with defects in practice teaching averages. The difference between these two groups in practice teaching, although slight, is greater than the differences in normal school average. (See Table LXV.)

Table LXXVI shows physical defects presented in the "A" and "B" groupings. The students with no defects in the "A" group, who have a practice teaching average of 91.5, are only slightly in advance of the students in the "A" group, with defects.

It is also interesting to note that the "B" group students with physical defects have a practice teaching average of 77.5 which is a fraction of a point better than the practice teaching record of 77.4 made by the people in the "B" group who had no defects.

Thus, once more it has been shown that there is no significant difference in achievement between students with physical defects and those without defects.

TABLE LXXVI

PHYSICAL DEFECTS AND AVERAGES IN NORMAL SCHOOL SCHOLARSHIP AND PRACTICE TEACHING

(GROUPS "A" AND "B")

	GROUP A	N. S. AVERAGE	P. T. AVERAGE	GROUP B	N. S. AVERAGE	P. T. AVERAGE
No Defects.....	31	84.2	91.5	32	81.3	77.4
Defects.....	37	83.8	90.9	56	80.6	77.5
Totals.....	68			88		

In the two tables which follow, in which physical defects are related to normal school and practice teaching averages, for groups "A1" and "B1", "A2" and "B2", it is once more shown that there is no significant difference in achievement between students with the physical defects dealt with in this investigation and those without defects.

TABLE LXXVII

PHYSICAL DEFECTS AND AVERAGES IN N. S. SCHOLARSHIP AND PRACTICE TEACHING

(GROUPS "A1" AND "B1")

	GROUP "A1"	N. S. AVERAGE	P. T. AVERAGE	GROUP "B1"	N. S. AVERAGE	P. T. AVERAGE
No defects.....	37	85.0	87.8	16	79.2	76.6
Defects.....	29	85.2	87.8	35	79.1	78.6
Totals.....	66			51		

TABLE LXXVIII

PHYSICAL DEFECTS AND AVERAGES IN N. S. SCHOLARSHIP AND PRACTICE TEACHING

(GROUPS "A2" AND "B2")

	GROUP "A2"	N. S. AVERAGE	P. T. AVERAGE	GROUP "B2"	N. S. AVERAGE	P. T. AVERAGE
No defects.....	29	84.4	91.0	20	79.8	76.2
Defects.....	30	84.3	91.2	41	79.8	76.6

11. *Graduate and Non-Graduate and Personality Rating*

Of the 342 students rated in personality, at entrance, 223 remained to graduate while 119 failed to graduate. Table LXXIX shows the number and per cent of graduates who were placed in the four different personality categories. The table also shows the number and per cent of non-graduates in the four personality categories. It is shown that a greater percentage of the students with the three acceptable personality ratings,

fair, good, and excellent, were in the graduate list than in the non-graduate group. In fact, the percentage differences favor very definitely the graduate group. On the other hand, of the students who received unsatisfactory in the personality ratings, at entrance, a greater percentage failed to graduate than graduated.

TABLE LXXIX

GRADUATES AND NON-GRADUATES AND PERSONALITY RATINGS

		GRADUATES		NON-GRADUATES	
	NUMBER	NUMBER	PER CENT	NUMBER	PER CENT
Unsatisfactory	15	6	40.0	9	60.0
Fair	137	90	61.3	47	39.7
Good	163	110	67.5	53	32.5
Excellent	27	17	62.9	10	37.1
Totals	342	223		119	

12. *Graduate and Non-Graduate and Age*

Table LXXX shows the number of graduates and the number of non-graduates on an age basis. The age groups range from 15 to 22 inclusive. There were four students who were in the 15-year group at entrance. Of this number, 3 or 75 per cent graduated while 1 or 25 per cent failed to graduate. This age category contains the highest recorded percentage of graduates as compared with non-graduates.

It is also to be noted that in all but one category the percentage of graduates over non-graduates is quite marked. Only in age group 22 is found a non-graduate percentage which is higher than the graduate percentage. However, since there is but one person who entered at the age of 22 and this one person failed to graduate, little significance can be attached to the 100 per cent score in the 22-year-old column. Of the 223 students who graduated 24 were boys and 199 were girls. Table LXXXI shows the graduates by age and sex. It is to be noted that the median age at entrance for both male and female graduates was 17. This means, of course, that they were two years older

TABLE LXXX

AGE GROUPINGS FOR GRADUATES AND NON-GRADUATES

		GRADUATES		NON-GRADUATES	
	NUMBER	NUMBER	PER CENT	NUMBER	PER CENT
15	4	3	75.0	1	25.0
16	46	32	69.6	14	30.4
17	167	115	69.0	52	31.0
18	92	54	58.7	38	41.3
19	20	11	55.0	9	45.0
20	7	5	71.4	2	28.6
21	5	3	60.0	2	40.0
22	1	0	....	1	100.0
Totals	342	223		119	

TABLE LXXXI

GRADUATES BY AGE AND SEX

	TOTAL	15	16	17	18	19	20	21	22
Boys	24	1	2	13	7	1	..	..	..
Girls	199	2	30	102	47	10	5	3	..
Totals	223	3	32	115	54	11	5	3	..

when they graduated. It is to be noticed in the Table (LXXXII) showing age distribution of groups "A" and "B" that Group

TABLE LXXXII

AGE DISTRIBUTION IN GROUPS "A" AND "B"

GROUP "A" (68)		AGE	GROUP "B" (88)	
NUMBER	PER CENT		NUMBER	PER CENT
0	0	15	2	2.3
9	13.2	16	11	12.5
34	50.0	17	43	48.9
17	25.0	18	26	29.6
4	5.8	19	4	4.5
2	3.0	20	1	1.1
2	3.0	21	1	1.1
Total 68	100.0		88	100.0

"A" contains a slightly higher percentage of the older students; there being 11.8 per cent of this group over 18 years, while in the "B" group only 6.7 per cent were over 18.

TABLE LXXXIII

AGE DISTRIBUTION IN GROUPS "A1" AND "B1"

GROUP "A1" (66)		AGE	GROUP "B1" (51)	
NUMBER	PER CENT		NUMBER	PER CENT
1	1.5	15	1	2.0
11	16.7	16	4	7.8
40	60.7	17	26	51.0
9	13.6	18	16	31.3
2	3.0	19	2	3.9
2	3.0	20	1	2.0
1	1.5	21	1	2.0
Total 66	100.0		51	100.0

In Table LXXXIII age distribution in groups "A1" and "B1" are shown. The "A1" group contains a slightly lower percentage of the older students, there being 7.5 per cent of this group over 18 years, while in the "B1" group 7.9 per cent were over 18. However, there are only a few pupils in each group over 18 years old and satisfactory conclusions cannot be drawn.

In Table LXXXIV age distributions are shown for groups

TABLE LXXXIV

AGE DISTRIBUTION IN GROUPS "A2" AND "B2"

GROUP "A2" (59)		AGE	GROUP "B2" (61)	
NUMBER	PER CENT		NUMBER	PER CENT
0	0	15	1	1.6
8	13.5	16	6	9.8
31	52.6	17	31	50.8
14	23.7	18	18	29.5
3	5.1	19	3	4.9
2	3.4	20	1	1.6
1	1.7	21	1	1.6
59	100.0		61	100.0

"A2" and "B2". The "A2" group contains a slightly higher percentage of the older students, there being 10.2 per cent of this group over 18 years, while in the "B2" group 8.1 per cent were over 18. However, relatively few students in these groups are over 18 years old and reliable conclusions cannot be drawn.

13. *Graduates and Non-Graduates and Speech*

Table LXIII (page 94) shows that 56.9 per cent of the graduates were without speech defects while 55.6 per cent of the non-graduates had no speech defects. Of the total number of students examined for speech defects, prior to entrance to the normal school, 193 or 56.5 per cent were diagnosed as having no defects. It is also recorded that but 28.7 per cent of the graduates were speech clinic attendants, while 37.7 per cent of the non-graduates made daily visits to the clinic. Of the total number of students examined for speech defects, prior to entrance to the Normal School, 109 or 31.8 per cent were allowed to enter on condition that they attend the speech clinic.

Thus it is seen by separating the graduates and non-graduates on the basis of speech defects that the graduates have a slightly better record in the "no defect" category and a much better record in the "clinical attendance" category.

14. *Graduate and Non-Graduate and Intelligence*

In Table LXXXV graduates and non-graduates are compared on the basis of intelligence. Since 50 students in this class left school before the intelligence test was given, but 69 of the total of 119 non-graduates received raw score ratings.

Percentages for non-graduates were, therefore, worked out on the basis of those who received raw scores. But 2.3 per cent of the graduates fall in the lowest raw score group of 20–29 while 5.8 per cent of the non-graduates are found in the poorest raw score group. On the other hand, 41.2 per cent of the graduates made raw scores of 50 and above as against 27.6 per cent for the non-graduates. It is thus apparent that the graduates who took the intelligence test have a better record than the non-graduates thus examined.

Table LXXXVI is included to show the raw scores of the 223

graduates by sex and color. It is observed that the five graduates found in the lowest raw score category, 20–29, were white girls, there being no white boys or colored girls among the graduates in this low classification. The percentage of girls, however, falling in the lowest raw score group is but 2.6 per cent inasmuch as there are 191 white girls labelled "graduates". There are

TABLE LXXXV

GRADUATES AND NON-GRADUATES COMPARED ON THE BASIS OF INTELLIGENCE

RAW SCORE GROUPS	GRADUATES		NON-GRADUATES	
	NUMBER	PER CENT	NUMBER	PER CENT
20–29	5	2.3	4	5.8
30–39	32	14.3	11	15.9
40–49	94	42.2	35	50.7
50–59	71	31.8	18	26.1
60 plus	21	9.4	1	1.5
Totals	223	100.0	69	100.0

TABLE LXXXVI

INTELLIGENCE TEST SCORES FOR GRADUATES BY SEX AND COLOR

RAW SCORE	WHITE GIRLS		WHITE BOYS		COLORED GIRLS	
	NO.	%	NO.	%	NO.	%
60 plus	17	8.9	3	12.5	1	12.5
50–59	62	32.5	7	45.8	2	25.0
40–49	81	42.4	11	29.2	2	25.0
30–39	26	13.6	3	12.5	3	37.5
20–29	5	2.6	..	..	..	..
Totals	191	100.0	24	100.0	8	100.0

but 24 white boys and 8 colored girls in the graduation group. In the highest raw score group, 60 and above, but 8.9 per cent of the white girls are found as against 12.5 per cent of the white boys and 12.5 per cent of the colored girls. No significant conclusion can be drawn regarding the comparative mental equipment of these groups since but 3 boys and but one colored

girl are found in the highest raw score group. The 8.9 per cent represents, it is to be observed, 17 white girls. On the other hand, 83.8 per cent of the white girls made 40 or better in raw score while 87.5 per cent of the white boys have 40 or better. The colored girls with 62.5 per cent are thus classified.

15. *Graduates and Non-Graduates and Physical Defects*

In Table LXV, presented on page 98, graduates and non-graduates are compared on the basis of the existence of physical defects. It appears that the graduates had fewer physical defects, of the kind of defects reported in this study, than the non-graduates when examined early in their normal school career since 43.5 per cent were without defects while only 33 per cent of the non-graduates were diagnosed as having no physical defects; conversely, 56.5 per cent of the graduates had one or more physical defects while more than two-thirds of the non-graduates were thus classified. The Board of Education rule requires that every student must show physical fitness for teaching both at entrance and at graduation. Those who are accepted for admission with defects that are correctible or defects which should not exclude them from teaching are examined from time to time while pursuing the normal school course. As a result, while some graduated with some defects, the defects were not such as to warrant exclusion from the teaching profession. In fact, many of the defects with which these students entered were removed prior to graduation. Much light would have been thrown on this matter if the students had been examined shortly before graduation. No doubt a much larger number of students would have appeared in the "no physical defects" column with a corresponding decrease in the "defects" column. The writer learned by way of conversation with Dr. S. Weir Newmayer, Medical Supervisor, and Miss Nora McGillicuddy, School Nurse, that very few defects remain with students at the time of graduation. This is due to the persistent checking-up on the part of these officials.

16. *Summary*

(1) In general, high personality ratings appear with high

scholastic marks and low personality ratings with low scholastic marks.

(2) Scholastic success, although very important, is apparently not the only prerequisite for success in practice teaching.

(3) The highest practice teaching average was obtained by the 20-year-old group of students while the lowest practice teaching average was secured by the 15-year-old group. However, few students are found in these groups and reliable conclusions cannot be drawn.

(4) The two elements, speech defects and normal school average, are closely related. The best normal school average was attained by students without speech defects. The lowest normal school average was attained by the students who had speech defects which were serious enough to require daily clinical attendance.

(5) Less than four out of ten of the students found in the low quartile in intelligence attained 80 or less in normal school average, five out of ten 81 to 83 and only one out of ten, 84 and above. Only one in ten would, therefore, go from the low intelligence to the highest normal school average group. On the other hand, only one out of ten starting in the high intelligence group drop back to the low normal school average group. Four out of ten go back to the middle group and five out of ten stay in the corresponding rank.

(6) When all the students are grouped on the basis of the physical defects, reported in this study, no significant differences in high school ratings were disclosed between those with and those without these defects.

(7) Marked differences between the "A" and "B", the "A1" and "B1", and the "A2" and "B2" groups are shown in the distribution of personality ratings. The "A", "A1" and "A2" groups are decidedly the superior groups.

(8) Group "A" on practice teaching is somewhat less subject to speech defects than is group "B". Group "A1" on normal school scholarship average and group "A2" on final average are also somewhat less subject to speech defects than are groups "B1" and "B2" respectively.

(9) The graduates with no physical defects, of the type reported

in this study, are a little ahead of the graduates with physical defects in practice teaching averages. The difference between these two groups in practice teaching, although slight, is greater than the difference in normal school averages.

(10) The students with no defects in the "A" group are but slightly in advance in practice teaching grade of the students in the "A" group with defects, while the students with no defects in group "B" are very slightly behind those in group "B" with defects. When groups "A1" and "B1" and "A2" and "B2" are compared, on the basis of physical defects, it is once more shown that there is no significant difference in achievement between students with the defects dealt with in this investigation and those without defects.

(11) A greater percentage of the students with the three acceptable personality ratings, fair, good and excellent, were in the graduate list than in the non-graduate list.

(12) Of the students who received unsatisfactory in the personality ratings, at entrance, a greater percentage failed to graduate than graduated.

(13) The "A" group contains a higher percentage of the older students than the "B" group, there being 11.8 per cent of the "A" group over 18 years of age; while in the "B" group only 6.7 per cent are over 18. The "A1" group contains a slightly lower percentage of the older students than the "B1" group, since 7.5 per cent of the "A1" group are over 18 years of age as compared with 7.9 per cent for the "B1" group. The "A2" group contains a slightly higher percentage of the older students than the "B2" group, there being 10.2 per cent of this group over 18 years while in the "B2" group 8.1 per cent are over 18. However, relatively few in these groups are over 18 years old and reliable conclusions cannot be drawn.

(14) The graduates have a slightly better record in the "no speech defect" category and a much better record in the "clinical attendance" category than the non-graduates.

(15) The graduates who took the intelligence test have a better record than the non-graduates thus examined.

(16) The graduates had fewer physical defects, of the kind reported, than the non-graduates when examined early in their

normal school career since 43.5 per cent were without defects while only 33 per cent of the non-graduates were diagnosed as having no physical defects; conversely, 56.5 per cent of the graduates had one or more physical defects while more than two-thirds of the non-graduates were thus classified.

(17) The correlation between the intelligence scores and practice teaching average is too low to be significant for the group as a whole.

(18) The students in the "A" group (90 and above in practice teaching) have a better intelligence record than the students in the "B" group (80 and below in practice teaching). It is probably safe to say that high intelligence is not a handicap in the development of practice teaching efficiency.

(19) There are other traits than intelligence required for success in practice teaching. However, the importance of intelligence should not be ignored. It is probably wise to continue the policy of not eliminating a student on the intelligence results alone. Such a drastic measure should be supported by high school record, judgment of teachers, language—ability, attitude, etc.

(20) A larger percentage of group "A1" students receive intelligence test raw scores of 50 and above than did students of group "B1". Of group "A1", 51.5 per cent attained raw scores of 50 and above; while but 25.5 per cent of group "B1" made such scores. On the other hand, only 7.6 per cent of group "A1" made raw scores of less than 40 as compared with 21.6 per cent of group "B1" who achieved such scores. These results resemble those secured on the basis of comparing groups "A" and "B."

(21) Very similar data to those presented above (in 20) were discovered for groups "A2" and "B2" as regards intelligence test raw scores. Of group "A2", 42.4 per cent secured raw scores of 50 and above, while only 31.2 per cent of group "B2" made such scores. On the other hand, only 6.8 per cent of group "A2" made raw scores of less than 40 as compared with 27.8 per cent of group "B2" who achieved such scores.

V

Evidences of Success and Social Background

1. *Scholarship Average in Normal School and Birthplace of Father*

There is little to choose, as is shown in Table LXXXVII, between the graduates whose fathers are native-born, Russian-born or other than Russian foreign-born in the matter of Normal School average. Table LXXXVII shows the other foreign-born group, with a frequency of 55, leads with a normal school average of 82.6, the native-born group with a frequency of 110 being in second place with 82.2, while the Russian group, 58 strong, is slightly behind with 82.0. The foregoing statements would be misleading unless considered in relationship to the following facts:

1. Throughout this study it has been demonstrated that the graduate group is superior to the non-graduate group both as regards ratings for various traits and achievements.

2. The percentage of school mortality of students of Russian-born fathers is much greater than the percentage for students of native-born and also other foreign-born fathers.

TABLE LXXXVII

Evidences of Success and Birthplace of Father

Graduates

	Number	N. S. Average	P. T. Average
Native Born	110	82.2	84.3
Russia	58	82.0	82.0
Other Foreign Born	55	82.6	84.3
Total	223		

Non-Graduates

Native Born	57	
Russia	41	
Other Foreign Born	21	
Total	119	

3. The results shown in Table LXXXVII are to be expected in light of intensity of the process of elimination.

2. *Scholastic Average in Normal School and Birthplace of Mother*

Turning to the birthplaces of mothers, results similar to those found in Table LXXXVII dealing with the birthplaces of the fathers are discovered. The other foreign-born group is made up of mothers of the students who achieved normal school average of 82.7. This is slightly better than the average attained by the native-born group which average is recorded as being 82.3. Again, the students of Russian-born parents are found in last place in normal school average with a rating of 82.0. All the data pertaining to the birthplaces of mothers lead to conclusions similar to those advanced in section 1 of this chapter.

3. *Scholarship Average in Normal School and Birthplace of Student*

It will be recalled that Table XVII showed that 318 or 93.0 per cent of the students were born in the United States while

TABLE LXXXVIII

EVIDENCES OF SUCCESS AND BIRTHPLACE OF MOTHER

GRADUATES

	NUMBER	N. S. AVERAGE	P. T. AVERAGE
Native Born	118	82.3	84.1
Russia	59	82.0	82.6
All Other Foreign Born	46	82.7	85.1
Total	223		

NON-GRADUATES

Native Born	51	
Russia	45	
All Other Foreign Born	23	
Total	119	

only 24 or 7.0 per cent were born in foreign countries.[1] Of the 24 born in foreign countries, 19 or 79.2 per cent were born in Russia. The 211 native-born students who graduated secured an average normal school average of 82.2. This is one point less than the 83.2 average attained by the few survivors in the foreign-born group. While only 50 per cent of the foreign-born group graduated the mortality rate in the Russian section of this group is extremely heavy since only 8 of the original group of 19 finished the course. No significant conclusion, however, can be drawn in regard to normal school average because of the limited number of students in the foreign group who received final marks. It is obvious, of course, that the most desirable of the foreign-born group persisted until Commencement Day and compare very favorably in both normal school average and practice teaching average with the native-born group. (See Table LXXXIX.)

4. *Scholarship Average in Normal School and Occupation of Father*
The occupations of the fathers of the students were studied to

TABLE LXXXIX

EVIDENCES OF SUCCESS AND BIRTHPLACE OF STUDENT

	NUMBER	N. S. AVERAGE	P. T. AVERAGE
GRADUATE			
Native Born	211	82.2	83.9
Foreign Born	12	83.2	83.8
Total	223		
NON-GRADUATE			
Native Born	107		
Foreign Born	12		
Total	119		

[1] See Chapter II, p. 39.

determine, if possible, some significant relationship between occupations of fathers and the scholastic average. (See Table XC.)

More than 20 per cent of the fathers were classified as deceased, retired, or occupation unknown. Among the remaining 80 per cent, twelve different classifications were found. These for the most part were not specific occupations but merely classes of occupations such as artisan-proprietor, proprietor, machine and related trades and commercial. It is felt that to be of greater value, the classification would have to be more specific, and with the varied list of occupations which would thus be required the sample would have to be many times as large to make the groups large enough to furnish reliable averages. From the following table it can be seen that students whose fathers were in managerial service and the building and related trades and in personal service received a normal school average below that of the entire normal school group while those whose fathers were in commercial and transportation service were above the average of the group. More significant, however, is the fact that the variation was slight between the averages of students of the various occupational origins.

TABLE XC

SCHOLARSHIP AVERAGE IN NORMAL SCHOOL AND OCCUPATION OF FATHER

OCCUPATION OF FATHER	NUMBER OF STUDENTS	SCHOLASTIC AVERAGE IN NORMAL SCHOOL
Personal Service	1	79.0
Bldg. and Related Trades	6	81.0
Managerial	28	81.9
Clerical	12	82.1
Artisan-Proprietors	25	82.2
Proprietors	38	82.3
Mach. and Related Trades	8	82.4
Public Service	8	82.4
Professional Service	17	82.6
Miscellaneous Trades	8	82.9
Trans. Service	6	83.5
Commercial	20	83.6
Deceased, Occupation Unknown, Retired, etc.	46	81.9
Total	223	
Average for the whole group	82.30	

5. *Practice Teaching Average and Birthplace of Father*

As was true in the case of normal school average, the students whose fathers were born in Russia are last in practice teaching average. The native-born and other foreign-born groups, which surpass the Russian group in practice teaching, are tied for first place, each having a practice teaching rating of 84.3. Perhaps if attempts were made to probe very deeply into the causes for these relative positions three outstanding ones would be discovered. First, sufficient influence was exerted by the English-speaking representatives of the other foreign-born group to help bring the group into a tie with the native born. In the second place, Germany, Austria, Hungary, academically recognized as outstanding countries, are well represented in this classification. Linguistically, they are more closely related to the native-born group than are the Russian-born folks. Lastly, England, Ireland, Scotland, Wales, Germany, Austria, Hungary, make up the large bulk of the other foreign-born group.

On the other hand, the "foreign stamp", especially in so far as it pertained to foreign accent and pronunciation, handicapped somewhat the students of Russian parents. As was to be expected the differences are greater in practice teaching averages than in normal school averages. (See Table LXXXVII, page 119.)

The "A" and "B" groups were segregated into pupils with American-born parents, and those with foreign-born parents, the table given below resulting: first, the number of pupils of foreign-born and native-born parents, and second, the percentage of pupils of foreign-born and native-born parents falling within

TABLE XCI

NATIVITY OF STUDENTS' PARENTS—GROUPS "A" AND "B"

GROUP "A"	FATHERS		MOTHERS		GROUP "B"	FATHERS		MOTHERS	
	NO.	%	NO.	%		NO.	%	NO.	%
Foreign born.....	32	47	32	47	Foreign born.....	54	61	49	56
Native born.....	36	53	36	53	Native born.....	34	39	39	44

each group.[2] Here it is clearly evident that the native-born group has a better record than the foreign-born group.

The two tables which follow present the nativity of students' parents according to the "A1" and "B1" and the "A2" and "B2" groupings. The results presented are to be expected in light of what has been said throughout this investigation about the relationship between birthplaces of parents and normal school achievement. In Table XCII it is shown that the native-born group has a better normal school scholarship record than the foreign-born group. Of the students who secured 84 and above in normal school scholarship average, 45.5 per cent had fathers and 40.9 per cent had mothers who were born in foreign countries, while 54.5 per cent had fathers and 59.1 per cent had mothers who were native born. On the other hand, of the students who secured 80 and below in normal school scholarship average, 49.0 per cent had fathers and 43.1 per cent had mothers who were born in foreign countries, while 51.0 per cent had fathers and 56.9 per cent had mothers who were native born.

When the normal school and practice teaching averages are combined, as shown in Table XCIII, it is observed that of the students who secured 87 and above, as final averages, 50.9 per cent had fathers and 49.1 per cent had mothers who were born in foreign countries, while 49.1 per cent had fathers and 50.9 per cent had mothers who were native born. On the other hand, of the students who received 80 and below in final average, 62.3 per cent had fathers and 59.0 per cent had mothers who were foreign born, while 37.7 per cent had fathers and 41.0 per cent had mothers who were born in the United States. The most impressive fact about Table XCIII is that a much smaller percentage of students with native-born parents than with foreign-born parents fall into the lowest final average group.

In Group "A1" there were 13 cases where one parent was foreign born and the other born in the United States. (See Table XCII, page 125).

In Group "B1", there were 5 such cases.

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[2] In Group "A" there were 12 cases where one parent was foreign born and the other born in United States. In Group "B" there were 7 such cases.

TABLE XCII

NATIVITY OF STUDENTS' PARENTS—GROUPS "A1" AND "B1"

GROUP "A1" (84 AND ABOVE ON N. S. AVERAGE)
GROUP "B1" (80 AND BELOW ON N. S. AVERAGE)

	GROUP "A1"				GROUP "B1"			
	FATHERS		MOTHERS		FATHERS		MOTHERS	
	NO.	%	NO.	%	NO.	%	NO.	%
Foreign Born	30	45.5	27	40.9	25	49.0	22	43.1
Native Born	36	54.5	39	59.1	26	51.0	29	56.9

TABLE XCIII

NATIVITY OF STUDENTS' PARENTS—GROUPS "A2" AND "B2"

GROUP "A2" (87 AND ABOVE, COMBINED AVERAGE N. S. AND P. T.)
GROUP "B2" (80 AND BELOW, COMBINED AVERAGE N. S. AND P. T.)

	GROUP "A2"				GROUP "B2"			
	FATHERS		MOTHERS		FATHERS		MOTHERS	
	NO.	%	NO.	%	NO.	%	NO.	%
Foreign Born	30	50.9	29	49.1	38	62.3	36	59.0
Native Born	29	49.1	30	50.9	23	37.7	25	41.0

In Group "A2" there were 11 cases where one parent was foreign-born and the other born in the United States.

In Group "B2" there were 4 such cases.

6. *Practice Teaching Average and Birthplace of Mother*

Results obtained in regard to practice teaching averages in Table LXXXVIII are very much like those obtained for the scholarship averages in Table LXXXVIII. Students with other foreign-born mothers lead with the practice teaching average 85.1, the native-born group coming second with 84.1, while the Russian group is last with an average of 82.6 which is 1.3 points below the average obtained by all graduating students. What has been said in regard to conclusions in section 5 apparently holds true to about the same extent here.

7. *Practice Teaching Average and Birthplace of Student*

In light of what has been said in section 1 of this chapter the small group of students born in foreign countries, who persisted until graduation, would be expected to compare favorably in practice teaching average with the much larger native-born group. That such is the case is shown in Table LXXXIX which appears on page 121. Here it is found that the foreign-born group is only one-tenth of a point back of the native-born group in practice teaching average. However, conclusions, if any are made, must be made with reservations inasmuch as the foreign-born graduate group is represented by only a very few individuals.

8. *Practice Teaching Average and Occupation of Father*

The occupations of the fathers of students were also studied to determine, if possible, some significant relationship between occupations of fathers and the practice teaching average. As was stated in section 4 to be of any definite value the classification of the fathers' occupations would have to be more specific and with a varied list of occupations, which would thus be required, the sample would have to be many times as large to make the groups large enough to furnish reliable practice teaching averages. Table XCIV shows that the averages varied from the general average to a little greater extent than did scholastic average in the normal school. However, the variations from the general average are not very great.

9. *Graduate and Non-Graduate and Birthplace of Father*

In Table XCV are found the birthplaces of fathers presented from the point-of-view of graduation and non-graduation. As one might expect from what has been said in other parts of this chapter, there is a greater dropping out of students with Russian-born parents than is to be found among the native-born and other foreign-born groups. The most impressive thing about the table is that the other foreign-born group has a better persistence record than even the native-born group. The fine record of the former is no doubt due, as was pointed out in section 5, to the calibre of the representatives of the other foreign-born group. The so-called foreign influences apparently have enhanced rather

than retarded the progress of the students placed in this category because of the birthplace of their fathers.

TABLE XCIV

PRACTICE TEACHING AND OCCUPATION OF FATHER

OCCUPATION OF FATHER	NUMBER OF STUDENTS	AVERAGE IN P. T.
Personal Service	1	80.0
Artisan proprietors	25	82.8
Machine and related trades	8	83.1
Managerial	28	83.6
Proprietors	38	83.6
Professional service	17	83.8
Clerical	12	85.0
Misc. trades in Mfg., Mech., and Ind.	8	85.0
Commercial	20	85.5
Public Service	8	85.6
Building and related trades	6	85.8
Transportation service	6	85.7
Deceased, occupation unknown, retired etc.	46	83.2
Totals	223	83.9

TABLE XCV

GRADUATES AND NON-GRADUATES AND BIRTHPLACES OF FATHERS

FATHERS' NATIVITY	NO.	GRADUATES		NON-GRADUATES	
		NO.	%	NO.	%
Native Born	167	110	65.9	57	34.1
Russia	99	58	58.5	41	41.5
Other Foreign Born	76	55	72.4	21	27.6
Total	342				

10. *Graduate and Non-Graduate and Birthplace of Mother*

Table XCVI shows the birthplaces of mothers presented from the point-of-view of graduation and non-graduation. As one might expect, the student mortality is greatest in the Russian group. Although the other foreign-born group has a higher percentage of non-graduates than the native-born group, the difference between these two groups is not very great.

TABLE XCVI

GRADUATES AND NON-GRADUATES AND BIRTHPLACES OF MOTHERS

MOTHERS' NATIVITY	NO.	GRADUATES		NON-GRADUATES	
		NO.	%	NO.	%
Native born	169	118	69.8	51	30.2
Russia	104	59	56.7	45	43.3
Other Foreign Born	69	46	66.7	23	33.3
Total	342				

11. *Graduates and Non-Graduates and Birthplaces of Students*

Table XCVII gives some interesting facts about the birthplaces of students presented from the viewpoint of persistence of students in the normal school. The statistics found in this table resemble, in general, those given in Tables XCV and XCVI for the birthplaces of the fathers and mothers of the students. The mortality is again shown to be greatest in the Russian group. In fact, only 8 of 19 claiming Russia as their birthplace graduated as against 11 or 57.9 per cent who failed to graduate. On the other hand, only one-third of the native-born group and but one-fifth of the other foreign-born group failed to graduate. In spite of good minds and ambitious hopes, the Russian group, doubtless because of speech, foreign background, personality, economic and other handicaps, withdrew to a greater extent than the native-born and other foreign-born groups. On the other hand, those who survived, and a number did so in the face of many obstacles, did very good work and were a credit to their parents, their school and their city educational system. "In this day and age," says Meader,[3] "when so many students of foreign parentage are applying for admission to our schools, it becomes doubly necessary, if our English language is to be preserved, to admit only those students who speak with-

[3] Meader, J. L., "Summary to Problems in Teacher Training," *Proceedings of the 1928 Spring Conference Conducted by the Normal School and Teachers-College Section of the New York Society for the Experimental Study of Education*, Vol. III, p. 31.

out foreign accent and with pleasing voice and with adequate vocabulary."

TABLE XCVII

GRADUATES AND NON-GRADUATES AND BIRTHPLACES OF STUDENTS

STUDENTS' NATIVITY	NO.	GRADUATES		NON-GRADUATES	
		NO.	%	NO.	%
Native Born	318	211	66.4	107	33.6
Russia	19	8	42.1	11	57.9
Other Foreign Born	5	4	80.0	1	20.0
Total	342				

12. *Graduate and Non-Graduate and Occupation of Father*

The occupations of the fathers of the students were studied in relationship to the persistence of students in the normal school. The number and per cent of the graduates and non-graduates falling in each occupational classification are given. It is observed that but 14.3 per cent of the students whose fathers held clerical jobs failed to graduate; conversely, 85.7 per cent of this group graduated. Altogether there were 14 fathers classified in the clerical category and their sons and daughters have the best persistency record. At the other extreme is the common labor group with 100 per cent recorded for non-graduation. However, this group has but one representative and it would not be fair to draw conclusions. The outstanding feature of this table is the fact that two-thirds of the students whose fathers were not contributing to their support (deceased, retired because of ill health, occupation unknown because of desertion, etc.) remain in the normal school until graduation. In spite of these possible economic handicaps and incomplete home conditions, they were able to hold their own since 65.2 per cent of the original 342 students are recorded as having graduated. (See Table XCVIII.)

13. *Summary*

(1) The graduate group is superior to the non-graduate group, both as regards ratings for various traits and achievements.

(2) The percentage of school mortality of students of Russian-born parents is much greater than the percentage for students of native-born and also other foreign-born parents.

(3) The students of Russian-born parents are in last place in normal school average, being surpassed in this respect by the other foreign-born and the native-born groups.

(4) As is true in the case of normal school average, the students whose parents were born in Russia placed last in practice teaching average. The differences are greater in practice teaching average than in normal school average.

TABLE XCVIII

GRADUATES AND NON-GRADUATES AND OCCUPATIONS OF FATHERS

OCCUPATIONS	NO.	GRADUATES		NON-GRADUATES	
		NO.	%	NO.	%
Proprietors	60	38	63.3	22	36.7
Professional service	28	17	60.7	11	39.3
Managerial	41	28	68.3	13	31.7
Commercial	31	20	64.5	11	35.5
Clerical	14	12	85.7	2	14.3
Artisan-proprietors	43	25	58.1	18	41.9
Building and related trades	8	6	75.0	2	25.0
Machine and related trades	12	8	66.7	4	33.3
Miscellaneous trades	11	8	72.7	3	27.3
Transportation service	8	6	75.0	2	25.0
Public Service	14	8	57.1	6	42.9
Personal service	2	1	50.0	1	50.0
Common labor	1	0		1	100.0
Deceased, occupation unknown, retired, etc.	69	46	66.7	23	33.3
Total	342				

(5) Two-thirds of the students whose fathers were not contributing to their support (deceased, retired because of ill-health, occupation unknown because of desertion, etc.) remain in the normal school until graduation. In spite of these possible economic handicaps and incomplete home conditions, they were able to hold their own since 65.2 per cent of the original 342 students are recorded as having graduated.

(6) A positive relationship has been shown to exist between occupations of fathers and graduation and non-graduation. On the other hand, fathers' occupations seem to play a very little part in determining achievement in normal school scholarship and practice teaching.

PART III

General Summary

VI

General Summary

In this chapter there is presented a general summary based on the study of the class graduated in June, 1927, from the Philadelphia Normal School.

The pre-normal school status of the students indicates positive relationship to later success in the normal school. High school scholarship average and high school English mark are found to have high correlations with normal school scholarship average, while the high school mathematics mark has a low correlation with normal school attainment. The results obtained indicate that the high school mathematics mark should receive little weight as an entrance criterion. The high school scholarship average and the high school English mark, on the other hand, stand out as valuable entrance criteria because they possess much predictive value. The Board of Education Rules and Regulations (June, 1925) for Normal School Entrance (see Appendix, page 143) place equal emphasis on all three subjects.

The results of the elementary school subject matter tests given to the class studied indicate that the students were not well prepared. They proved to be especially weak in arithmetic and geography.

The value of the personality rating as an important entrance criterion is shown in Tables LXI, LXVII and LXXIX. High personality ratings, in general, appear with high scholarship averages and low personality ratings with low scholarship averages. Moreover, very few of the students rated unsatisfactory in personality persisted in the normal school until graduation, while a much greater percentage of the students who received satisfactory personality ratings are found in the graduate list than are found in the non-graduate list. Furthermore, marked differences between the "A" and "B" groups, the "A1" and "B1" groups, and the "A2" and "B2" groups are shown in the distribution of personality ratings. The "A", "A1", and "A2" groups are decidedly the superior groups.

The general belief that the physical defects, coming within

this study, are a handicap to successful school work was not verified by the facts brought to the surface in this investigation. In fact, no significant differences were disclosed in normal school scholarship averages and practice teaching averages, as well as in high school ratings between those with and those without physical defects. It is possible, of course, that those with physical defects compare favorably with those without defects in normal school scholarship and practice teaching because of the fact that there was a heavier student mortality rate in the defective group than in the non-defective group. The most defective of the group with defects were eliminated before the practice school work. This means that the defective group which was compared in practice teaching and scholarship averages with the non-defective group was really not very defective.

Insofar as the group studied is representative of the student body of the school, it appears that the Philadelphia Normal School receives and graduates pupils whose intelligence, as judged by the Brown University Test, is distinctly inferior to that of students of liberal arts colleges. While the investigation further proves that other desirable traits are required for success in the normal school, the importance of intelligence cannot be disregarded. In Chapter IV, it was pointed out that only 15.2 per cent of the students in the lowest quartile group in intelligence attained 84 or above in normal school scholarship average. Furthermore, the students in the "A" group (90 and above in practice teaching) have a much better intelligence record than the students in the "B" group (80 and below in practice teaching). These data and others presented in the study indicate that there is a positive relationship between intelligence and success in the normal school.

Fathers' occupations seemed to have little relation to differences in achievement in the normal school. The variation is very slight between the scholarship averages of students of the various occupational origins. The variation, although very slight, between the practice teaching averages of students of the various occupational origins, is a little greater than that for scholarship average. The relationship between fathers' occupations and persistence in the normal school, however, is very significant.

Two-thirds of the students whose fathers were not contributing to their support (deceased, retired because of ill-health, occupation unknown because of desertion, etc.) remained in the normal school until graduation. In spite of these possible economic handicaps and incomplete home conditions, they were able to hold their own since 65.2 per cent of the original 342 students are recorded as having graduated.

If the group studied in this investigation is typical of the student body of the school, it may be concluded that the Philadelphia Normal School is a school which attracts many students with foreign-born parents. Over one-half of the parents were born in foreign countries. The Russian-born are contributing more heavily than the United States born to the normal school enrollment, in proportion to their percentage to the city's population. The percentage of student mortality of students of Russian-born parents is much greater than the percentages for students of native-born and other foreign-born parents. Moreover, the students whose parents were born in Russia are in last place in normal school scholarship and practice teaching averages, being surpassed in these respects by the other foreign-born and native-born groups. The differences, besides, are greater in practice teaching than in normal school scholarship average. These and other facts presented in this study indicate that the foreign problem stands out in bold relief.

Although the Philadelphia Normal School faculty is faced with a tremendous task, because of the very large percentage of students with foreign-born parents—especially Russian parentage—much is being done, as indicated in this study, to minimize the problem of speech defects. The work of the Department of Speech Improvement and the staff of speech clinic teachers assigned to the Philadelphia Normal School is without doubt very helpful. The exclusion of a number of candidates for admission with very glaring speech defects, the assistance rendered in the daily speech clinic to students with non-barring defects, and the withholding of graduation certificates from those who fail to remove retarding speech defects are evidence of the value of a definite speech program.

The knowledge that but 65 per cent of the students under

observation graduated is significant because the mortality is heaviest among those rated low in high school averages, subject matter examination marks, personality and intelligence; with most physical defects; and with most speech defects. The implication here is that elimination can be most effectively practiced shortly after matriculation on the basis of the data available at that time.

The "A" and "B" group technique has proved very helpful in determining the relation between the evidences of success and the student characteristics. Significant differences have been discovered thereby. Throughout the study the "A" group proved, in every respect, to be superior to the "B" group. The grouping of the same students on normal school scholarship average gives similar results and thus confirms the fairness and value of the grouping on practice teaching. Of the students in group "A" 32.4 per cent attained scholarship averages of 85 and above, while only 3.4 per cent of the "B" group obtained such ratings. On the other hand, not one student is found in group "A" with a scholarship average of less than 80, while 28.4 per cent of group "B" are placed in the lowest scholastic average category. Of the 66 students in the "A1" group (84 and above in normal school scholarship) 37 or 56 per cent attained practice teaching averages of 90 and above, and were accordingly in the superior group in both instances. Of the 29 remaining students, 11 or 16.7 per cent fell into the inferior group on practice teaching (80 and below). On the other hand, of the 51 in the "B1" group (80 and below in normal school scholarship) only 1 or 2 per cent attained practice teaching markings which put them in the superior group (90 and above in practice teaching).

In conclusion, these data indicate that drastic steps should be taken to select only the very best of the large number of students who seek entrance into the Philadelphia Normal School. The two elements, speech defects and success in the normal school, were found to be closely related. The students without defects and those with minor speech defects achieved much better in practice teaching and normal school scholarship than those who possessed speech defects which were serious enough to require daily clinical attendance. It was also shown in the study

that those who secured high ratings in general scholarship and English, in the high school, showed higher achievement in the teacher-training school, with reference to both practice teaching and scholarship averages, than those who obtained low ratings. Similar tendencies were found in regard to the results secured by students in the examinations given at entrance to the normal school. The implication is that these ratings have some predictive value. The normal school should accept only the highest group as judged by speech defects, ratings in general scholarship and English in the high school, and the results of the examinations given at entrance to the normal school.

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Concludes that school grades are better selective instruments than mental tests for determining the reliability and dependability of individuals.

Bruce, W. F., "Personality Development in Student Teachers," *Journal of Educational Research*, Vol. 21, 191–202, March, 1930.

Points out that the majority of failures among our beginning teachers are clearly traceable to personality defects. Many a young teacher who has successfully passed the required professional courses is labelled a failure by those who judge her teaching because she lacks forcefulness, sociability, a business-like manner, or some other essential trait.

Bureau of Compulsory Education, Philadelphia, Pa., *Report for Year Ending June 30, 1926.*

Included in this report is a table showing the birthplaces of the parents of the children of Philadelphia. The extent to which each country is represented in the general population of the city is also indicated in per cents.

Counts, G. L., *The Selective Character of American Secondary Education*, 1922, University of Chicago.

Claims that occupation is the central fact in the life of ordinary persons. It determines in considerable degree his place of residence, his friends and acquaintances, what he does and what he thinks, his social and economic status, and his outlook on life. The belief possessed by many persons that the public high school of the city is reaching all classes and that the selective principle is no longer operative is disproved by Professor Counts.

MacPhail, A. H., *The Intelligence of College Students*, Warwick and York, Baltimore, Md., 1923, 176 pages.

A general survey of current practice in college admission with special reference to the use of intelligence examinations. A complete account of guidance and advice at Brown University. Tables of Data. Bibliography of 285 titles. A study of intelligence as a factor in the selection, retention, and guidance of college students, based on investigation made at many different institutions and at Brown University in particular.

Meader, J. L., "Summary of Situation in Regard to Normal School Admission," *Proceedings of the 1928 Spring Conference Conducted by the Normal*

School and Teachers College Section of the New York Society for the Experimental Study of Education, Vol. III, pp. 27–32, Fort Orange Press, Albany, N. Y.

States that inasmuch as many students of foreign parentage are applying for admission to normal schools it is necessary, if our English language is to be preserved, to admit only those who speak without foreign accent and with pleasing voice, and with adequate vocabulary. He also insists that high intelligence be considered an important prerequisite to the field of teaching.

Meriam, J. L., "Normal School Education and Efficiency in Teaching" (*Contributions to Education*, No. 1, Teachers College, Columbia University, 1906).

The achievements of 1185 normal school graduates were analyzed to determine if any relationship existed between scholarship in normal school and efficiency in teaching. The most valuable discovery in this investigation was that the correlation between scholarship in normal school and subsequent teaching success was so low as to appear negligible. However, a correlation of +.443 was found between practice teaching and actual teaching. This investigation was the first outstanding attempt to develop a scientific predictive technique.

Newmark, D., "An Analysis of the Student Body of the Philadelphia Normal School," *Educational Administration and Supervision*, 11:399–416, September, 1925.

Questionnaire given to 666 students to show the nativity of students and parents, reasons for entering normal school, course selected with reason for selection, and an analysis of the reasons given.

Pyle, W. H., "The Relation Between Intelligence and Teaching Success: A Supplementary Study," *Educational Administration and Supervision*, 14:257–67, April, 1928.

Discovers that while intelligence test scores enable us to predict with some success the academic records of the students, they do not enable us to predict success in practice teaching, nor later teaching success in actual service.

Shultz, I. T., *A Descriptive and Predictive Study of a Class in a School of Education*, University of Pennsylvania, Philadelphia, Pa., 1928.

An investigation limited to an intensive study of a particular group in a school of education. A contribution in the field of teacher training for secondary schools, a contribution peculiar to the guidance program in the School of Education of the University of Pennsylvania.

Somers, G. T., "Pedagogical Prognosis Predicting the Success of Prospective

Teachers," Teachers College, Columbia University, *Contributions to Education*, No. 140, 1923.

A statistical study which reaches the conclusions (among others) that tests, personality (intelligence, tact, personal appearance, optimism, sincerity, scholarship, sympathy, and industry), combined with high school record, when available, might well serve to determine the fitness of candidates for admission to teacher-training institutions and that elimination could be practiced safely at the end of the first half year on the basis of testability, personality, and first-semester marks.

Sprague, H. A., "Recruiting and Selecting the Best Personnel for the Teaching Service," *Schoolmen's Week Proceedings*, University of Pennsylvania, 1930, pp. 205–212.

Explains that there is a large percentage of students of foreign born parentage seeking entrance into teacher training schools and that this situation presents a problem of cultural amalgamation. Further claims that since personality correlates more highly with teaching success than any other teacher trait and bears practically the same relation to professional promise as to teaching success the prospective teacher's personality should receive some approximate measures.

Wessel, Herman M., *The Secondary School Population in Some of its Social and Economic Relationships*, University of Pennsylvania, 1930.

This is a study of the secondary school population enrolled in the public secondary schools of Cheltenham Township, Pennsylvania. School characteristics of the student population, home background, activities outside the school, plans for the future, status in school, etc. are among the topics analyzed by the author. Wessel concludes that psychological and sociological data have value for the analysis and understanding of a school population, and for the sympathetic administration of the school program.

Whitney, E. L., "The Prediction of Teaching Success." Reprint from the *Journal of Educational Research*, Vol. VI, Public School Publishing Company, Bloomington, Illinois, 1924, 85 pages.

A technical statistical study of student teaching, professional marks, physique, academic marks, secondary records, etc., of 1156 graduates of 12 two-year normal schools of Colorado, to show their degree of correlation with teaching success.

Wilson, G. M., and Hoke, K. J., *How to Measure*, New York, Macmillan Co., 1929.

A handy guide and reference in statistical methods and their applications. Especially helpful in methods of representing frequency distributions, correlation, and graphic presentation.

APPENDIX

Requirements for Admission to the Philadelphia Normal School June, 1925[1]

Admission to the Philadelphia Normal School is limited to bona fide residents of Philadelphia.

Graduates of Public High Schools of Philadelphia are admitted to the Philadelphia Normal School on certification of the high school principal that they have satisfactorily completed the work required for graduation and that such work has included the following minimum requirements:

English	28 points
Social Studies	20 points
Foreign Language	16 points
Algebra	8 points
Plane Geometry	8 points
General Science, Biology, Botany, or Zoology	8 points
Hygiene	1 point
Physics or Chemistry	8 points
Drawing	4 points
Music	2 points
Physical Training	7 points

One period per week of "prepared" work or two periods of "unprepared" work, pursued for a term of eighteen weeks, constitutes a "point".

It is further required that each applicant so certified shall have attained an average of not less than 75 at graduation and also an average of not less than 75 for the work done in English and Mathematics in the final year in which these subjects were taken. Graduates who do not reach this standard may take examinations for admission to the Normal School a half-year later.

The principal of each high school forwards to the Normal School the certified list of students applying for admission, together with the record of physical examinations which have been made under the direction of the Division of Medical Inspection. At the same time there is forwarded a report on speech defects by the Supervisor of Speech Improvement Work.

The Normal School offers courses for prospective grade teachers, for kindergarten teachers, and for teachers of home economics. Election of courses must be made at the time of admission, except in the case of the kindergarten-primary course, selection of which is made at the close of the first semester.

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[1] Since 1925 several important changes have been made in the requirements for admission to the Philadelphia Normal School. Information in regard to the present requirements for admission may be secured from the Director of Normal and Practice Schools.

The admission examinations referred to above consist of the following:

1. Mathematics—A. Algebra—through quadratics
   B. Geometry—Plane
   C. Arithmetic
2. English—Including Grammar, Composition and Literature of High School Grade.
3. United States History and Civics.

Candidates are required to make a general average of 75 in all three subjects and an average of not less than 75 in Mathematics and English.

Recently the number of candidates admitted to the Philadelphia Normal School each half year has been limited by Board action to 300. When the number of successful applicants is in excess of this number, admissions are pro-rated among the several Philadelphia High Schools and the list of candidates admitted by examination in the order of their graduation average in the first instance and examination average in the second.

All admissions to the Philadelphia Normal School are on probation. Students who have been reported as having remediable speech defects are required to attend the Speech Clinic one hour each afternoon. Failure to comply with this requirement or failure on the part of the student to show a reasonable progress in the correction of the defect is followed by a request for withdrawal.

During the first month of the first semester, all newly-admitted students are required to take a group intelligence test and tests in elementary school subject matter. Results in the intelligence tests are never used alone in determining the fitness of a student for retention. Students who fail in the first subject matter tests are advised that their deficiencies in these subjects must be made up. They are supplied with copies of the elementary school courses of study covering the subjects in which they have failed and are instructed to prepare on their own initiative for a re-examination to be given at the end of the first semester. Students who fail in this re-examination are not permitted to continue with their class.

Elementary School Subject Matter Tests—History, English, Arithmetic, and Geography

History 1

1. State briefly why each of the following is remembered in American history:

Thomas Jefferson
Robert Morris
Alexander Hamilton
Eli Whitney
Frances Willard

2. Give in list form four important results of the Crusades.

3. Name three European nations which played an important part in the exploration and settlement of the new world. Name under each three prominent leaders, stating in a sentence the reason for which each is noted.

English 1

1. Write a paragraph containing a description. Choose one of the topics given.

"An act of courage" (experienced or witnessed)
"A cave in the woods"
"The best motion picture I ever saw"

2. Write a letter to a school friend. Tell about your school: lessons, activities, schoolmates, interests

or

Write a letter to a child, recommending a book

or

Write an invitation to a friend to join your club.

3. Write a simple sentence. Show why it is a simple sentence. Name the complete subject and underline the simple subject. Name the complete predicate and underline the simple predicate.

4. What is the part of speech of each *italicized* word and what is its grammatical use in the sentence:

Robert Fulton built *his first* steamboat *on* the river Seine, near Paris, *but* the *craft soon broke* from the weight of her machinery.

5. Use the correct form in the parenthesis

If I (was or were) you, I should ride a horse.

Arithmetic 1

Examples:

$\frac{3}{4}$
$\frac{5}{8}$
$\frac{1}{6}$
$+\frac{1}{3}$

$15\frac{1}{8}$
$-7\frac{1}{4}$

25
$-2\frac{3}{4}$

24/31 divided by 6

$9\frac{1}{3}$ divided by $\frac{7}{8}$

$8\frac{3}{4}$ divided by $5\frac{2}{3}$

.32 × .26

9746 divided by 1000

800 divided by .04

120% of $624.50

Problems:

A boy sold his bicycle at second hand for $\frac{2}{3}$ of the cost, receiving for it $80. How much did it cost him?

Mr. Smith receives a salary of $1800 a year. He pays 15% of it for board, 8⅓% for clothing and 16% for other expenses. What are his yearly expenses and how much does he save?

The total enrollment for a certain fifth grade is 46. The attendance on Monday is 43. Find the per cent present.

Geography 1

Before answering the questions, please read the following directions:

1. Name on maps must be printed. 2. Questions are to be answered briefly, not in the form of an elaborate or lengthy essay.

1. On a map of the world, mark the regions that produce in large amounts:
a. rubber b. cocoa c. coffee d. coal e. cotton
Locate and name on the map, a city exporting each product in large quantities.

2. On a map of the United States name the following states:
Nebraska Louisianna Oregon Massachusetts Georgia
Texas Illinois
In each state, locate a leading city and name an important product. Locate the Missouri River, Colorado River, and Lake Huron.

3. Discuss the sugar beet industry in Europe under the following heads:
   a. Conditions necessary for sugar beet production.
   b. Countries that lead in this production.

4. Answer either a or b.
   a. Why is silk manufacturing an important industry in Japan? (Give at least three good reasons.)
   b. Why does the bulk of the rice of the world come from southeastern Asia?

5. What is the cause of the desert of Atacama (northern Chile)? State its importance to us.

History 2

1. Tell why the following are remembered in American history:
Alexander Hamilton
Thomas Jefferson
John Quincy Adams
John Fremont
Cyrus McCormick
Clara Barton

2. Give one fact of interest concerning the following:

Julius Caesar
Socrates
Charlemagne
Constantine
Hannibal

3. Name three countries that were active in exploration and settlement in America. Under each name an explorer and discoverer and tell what each did.

English 2

1. Write a paragraph containing a description. Choose one of these topics:

An embarrassing moment
A pet hobby
A haunted house

2. Write a letter to a French child who has never visited Philadelphia,

or

Imagine that you are a boy who has received a set of books of travel from his uncle. Acknowledge the gift.

3. Write a simple sentence. Tell why it is simple. Make it compound. Underline the verbs and give their subjects.

4. Tell the part of speech and use of each *italicized* word:

The *sailors found* the *sea* very *calm with beautifully colored water* under the *ship's bow.*

5. Write the correct form in each blank:

..... kind of oranges ..... better than what you saw.

Arithmetic 2

Examples:

1. Add ½ 16½ 37
⅔ −9¾ −3½ 12/17 divided by 4
¾

8¼ divided by ⅔ 5¼ divided by 3½
.048 × .65 .64 divided by .8(2/5 plus .75)
133⅓% of 9; of $843

Problems:

The number of children of school age in a certain city is 14,769. This is 33⅓% of the whole population. How many are there not of school age?

If a boat travels 26 miles in 2½ hours, how far can it travel in 10 hours?

The following is the record made by a fifth grade pupil in an addition test: Number attempted, 15. Number right, 13. Find the per cent of accuracy.

Geography 2

1. Opposite each of the following cities place the country in which it is located. Opposite any five of these cities place one leading export. Liverpool, Bordeaux, Hamburg, Singapore, Sydney, Alexandria, Yokahoma, Odessa, London, Bombay.

2. Select either (a) or (b).

(a) For what conditions of climate would you look if you wished to raise Cotton? Wheat? Corn?

In what parts of the United States would you find the best conditions for raising these products?

(b) State definitely three advantages Australia has for sheep raising.

3. Select any two of the following states or countries and give three factors that make manufacturing a leading occupation in each of the two selected: Massachusetts, Pennsylvania, England, Switzerland.

4. On the map of South America name: three countries, three rivers, two highland regions, two lowland regions, three cities, three products (place in the region that produces each in large quantities).

Illustrations of Speech Diagnoses

A. Pupils Who Should be Able to Overcome Their Defect with Help in the English Class.

Student S. B.—Diagnosis—She uses the top of the tongue instead of the tip in sounding T and D.

Student J. C.—Diagnosis—Nasality—slight. She uses the top of the tongue instead of the tip in sounding T and D. She said that at times she gets nervous and has to stop speaking for a few minutes. She should be watched for evidence of stammering.

Student M. C.—Diagnosis—She got so excited the first time that she stuttered slightly. She needs confidence and drill in resonance. A deeper voice will tend to increase her courage.

B. Pupils Who Should Have Help in the Clinic.

Student R. K.—Diagnosis—Foreign Accent on Ng, especially before a vowel. She uses the top of the tongue instead of the tip in sounding T and D. She is tongue-tied. It was recommended that she have her tongue cut to facilitate the raising of the tip of the tongue in sounding

T, D. This recommendation met with Dr. Loving's approval. She speaks in a tense manner, shoots her jaw to one side in forming the obstruction necessary for sounding S.

Student G. R.—Diagnosis—Defective Phonation—slight. He uses the top of the tongue instead of the tip in sounding T, D, L. These sounds are also slightly protruded. He confuses various sounds through the ear such as L and N in "Lame" and "Name". His hearing was reported normal by the doctor, however.

Student B. T.—Diagnosis—Foreign Accent—marked on Th. He protrudes his tongue in sounding T and uses the top instead of the tip in sounding T, D, and N, when used in combination with S.

C. Pupil Recommended for Exclusion.

Student J. W.—Diagnosis—Lingual Protrusion Lisping—marked on S, Z, Ch, J, Zh. He protruded his tongue also on T, D, L, and N, due to a very bad mal-occlusion of the teeth. His lower jaw is so greatly protruded that he draws down the upper lip in order to effect contact with the lower teeth in an attempt to produce the sibilant sounds. His teeth seem to be in a very poor condition, also, apart from the poor occlusion. He was reported to Dr. McKelvin, who did not feel that much could be done with the shape of the jaw. It will be practically impossible for him to be able to effect the normal positions necessary in sounding sibilant sounds and in sounding the sounds T, D, L, and N. It does not seem advisable, therefore, that he be admitted to the Normal School in spite of the fact that he was reported by his Latin teacher to be good material in other respects. He is also a hunch-back. The examiner spoke to him about his handicap and spoke of the importance of imitation in teaching. He seemed to realize the justice of exclusion.

Count's Classification[2]

1. *Proprietors*—Bankers, druggists, hotel-owners, landlords, laundry-owners, lumbermen, manufacturers, merchants, mine-owners, publishers, shop-keepers, etc.

2. *Professional Service*—Architects, artists, clergymen, dentists, engineers, lawyers, pharmacists, physicians, surgeons, teachers, etc.

3. *Managerial Service*—Contractors, foremen, managers, officials, and inspectors (private and public), superintendents, etc.

4. *Commercial Service*—Agents (real estate and insurance), buyers, clerks in stores, commercial travelers, salesmen, etc.

5. *Clerical Service*—Accountants, bookkeepers, canvassers, cashiers, clerks (except in stores), collectors, etc.

6. *Agricultural Service*—Dairymen, farmers, gardeners, ranchmen, etc.

7. *Artisan-proprietors*—All artisans who own the shops in which they work, including bakers, barbers, blacksmiths, cleaners and dyers, cobblers, machinists, milliners, plumbers, printers, tailors, tinners, etc.

8. *Building and Related Trades*—Carpenters, electricians, lathers, masons, plasterers, plumbers, etc.

9. *Machine and Related Trades*—Blacksmiths, draftsmen, engineers (stationary), founders, machinists, molders, pattern-makers, tool-makers, etc.

10. *Printing Trades*—Bookbinders, compositors, electrotypers, engravers, linotypers, pressmen, typesetters, etc.

11. *Miscellaneous Trades in Manufacturing and Mechanical Industries*—Bakers, brewers, cobblers, cigar-makers, cutlers, dyers, glass-blowers, milliners, platers, tailors, tanners, weavers, etc., and machine operatives.

12. *Transportation Service*—Baggagemen, brakemen, chauffeurs, conductors, engineers (locomotive and marine), longshoremen, motormen, sailors, switchmen, etc.

13. *Public Service*—Detectives, firemen (fire department), guards, policemen, sailors, soldiers, watchmen, etc.

14. *Personal Service*—Barbers, cooks, janitors, launderers, porters, sextons, waiters, etc.

15. *Miners*—lumber-workers, and fishermen.

16. *Common Labor*—Including all apprentices and helpers.

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[2] From *The Selective Character of American Secondary Education*, by George L. Counts.

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PHILA.